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**Exclusive!**

Astonishing DALI  
Epicon 5.1 array, p18

## Sony fights back

40in **Triluminos** W9 steals the LED TV crown

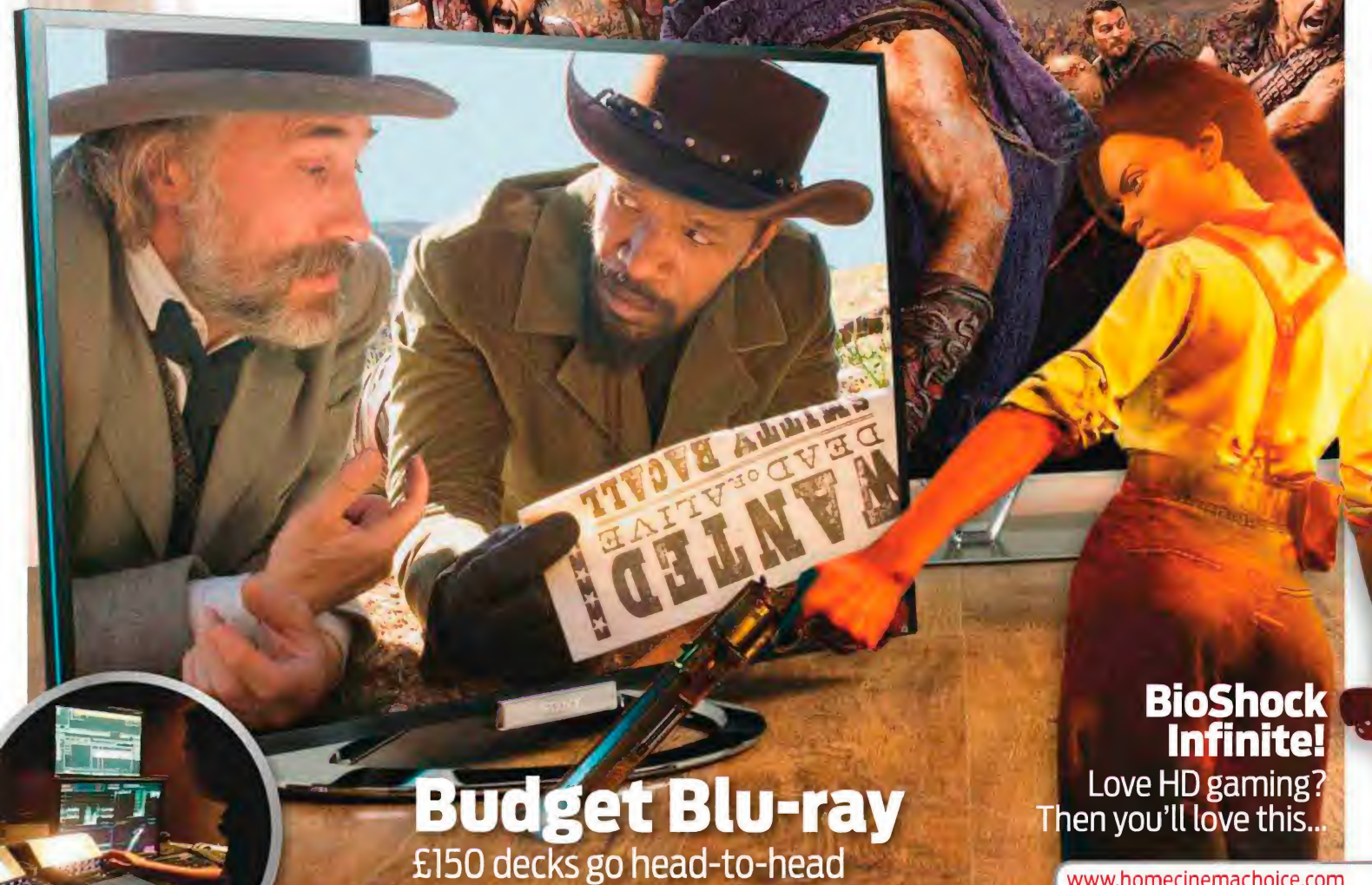
### ON TEST

Acer 3D projector  
KEF E Series speakers  
Bang & Olufsen 40in  
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■ DJANGO UNCHAINED  
■ SPARTACUS: WAR OF THE  
DAMNED ■ JACK REACHER  
■ ZERO DARK THIRTY



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**INSIDE** THE ART OF MOVIE RESTORATION → LOEWE TV  
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A member  
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Circulations

7.2-channel  
basement  
cinema, p36



# WELCOME

The world of film is dominated by its A-list stars – the actors, actresses and directors who stalk the red carpet and snaffle the awards. Yet for Blu-ray fans, there are other heroes. Not only the hardware engineers that created the format, but the software gurus who use it to breath fresh life into our favourite movies.



This is why we jumped at the chance to talk tech with film restoration expert James White, who's been working with fan-favourite Blu-ray label Arrow Video on some classic cult titles. It's clear from our interview (p28) that **there's a lot more to the phrase 'remastered for hi-def' than you might think** – the level of commitment and attention to detail given to vintage movies is often astonishing, and completely justifies the cost of the finished discs. Blu-ray expensive? It has every right to be...

*Mark Craven*  
Editor



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## CONTRIBUTORS



**John Archer:**  
The UK's most experienced TV tester cut his teeth as an early HCC staffer



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Industry veteran and former Editor of UK CE trade journal ERT



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The UK's foremost expert in extreme audio writes about bass, hi-fi and, er, cartoons



**Adrian Justins:**  
Made his name as the editor of *What Video & TV* and *What Home Cinema*

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# BULLETIN

→ **NEWS HIGHLIGHTS** SHARP Mammoth 80in LED screen hits Europe LOEWE High-end brand shows us its new flagship TV PIONEER Mid-range AV receivers break cover ZERO DARK THIRTY Award-winning war movie's SFX secrets revealed! NEWS X10 The hottest news stories in bite-size chunks OZ THE GREAT AND POWERFUL We're off to see the wizard on Blu-ray and DVD AND MUCH MORE!

## Aural deL-ite

Quad L-ite Plus 5.1 speaker system → [www.quad-hifi.co.uk](http://www.quad-hifi.co.uk)



Building on the success of its previous L-ite and L-ite2 loudspeakers, UK-based audio expert Quad has introduced a new 'small yet perfectly formed' 5.1 home cinema array. Priced around £1,200, the L-ite Plus 5.1 system boasts a long-throw mid/bass driver in each of the five main speakers (one in each satellite; two in the centre) utilizing bi-directional Kevlar weave 4in cones. The satellites are joined by an all-new compact subwoofer featuring two opposed 6in bass drivers and packing 200W (RMS) amplification.

### HCC ONLINE...

Looking for breaking AV news, blogs, features, & reviews? For your daily fix visit us at [www.homecinemachoice.com](http://www.homecinemachoice.com) Follow us on Twitter @hccmag



# Titanic televisions

Sharp Aquos LE857K series → [www.sharp.co.uk](http://www.sharp.co.uk)



**COPS & ROBBERS**  
*Gangster Squad*  
lays down the  
law on Blu-ray,  
p102

The boffins at Sharp have announced the launch of new flagship 80in and 70in Smart TVs, making it the go-to brand for bigscreen fanatics not interested in 4K displays. The LC-80LE857 and LC-70LE857 utilise third-generation Quattron 3D and 800Hz Active motion tech and arrive with neat styling, including a 15mm pure aluminium bezel and 'floating' stand. At the time of writing we were still waiting for confirmation on UK pricing, although one of our sources suggested a €5,000 tag for the 70in model.



## A cloud of your own



Data storage specialist Synology UK Ltd. has launched a budget-friendly new two-bay NAS server. 'With its

advanced hardware integration the DiskStation DS213j is designed to work as an efficient private cloud for home users,' states product manager Chad Jiang. And with read and write speeds of over 100MB/sec and 70MB/sec respectively, the DS213j is an ideal storage solution for a home AV network, with Synology boasting this allows users to 'share a Blu-ray-quality video in less than three-minutes'.  
www.synology.com

## Datasat upgrades



Datasat Digital Entertainment has launched the first upgrade for its high-spec RS20i processor. The Datasat H555 Expansion Card is being offered as a no-charge upgrade for RS20i owners and will be included in all new product shipments. The card features two additional Digital Signal Processors, supports an extended range of decoders (including DTS Neo:X 11.1) and supports speaker configurations up to 16 channels – making the R20i fully compatible with Dolby and DTS height and width channels.  
www.datasatdigital.com

## Philips wings it



'Hide the sub, not the sound' is the

message Philips is pushing with its new HTL5120 soundbar. Available through John Lewis, priced £250, this rather stylish wing-shaped 'bar features an integrated active subwoofer running in concert with the brand's DoubleBASS and Virtual Surround technologies. The HTL5120 also boasts built-in Bluetooth for music streaming from mobile devices, two HDMI inputs and an integrated 'orientation sensor' that optimises the sound for wall or table-top placement.  
www.philips.co.uk

# Loewe flagships set sail in UK

Premium brand unveils Reference ID TVs and plans bigger screen sizes

Premium AV brand Loewe appears to be setting its sights higher than ever with its forthcoming flagship TV. Unveiled to HCC at a swanky interiors store in South Kensington, the stylish Reference ID display looked completely at home surrounded by designer furnishings.

Available in a choice of three screen sizes (40in, 46in and 55in), the new flagship TV features a 400Hz Full HD 3D panel with LED backlighting, integrated 1TB hard drive, 160W speaker array mounted below the screen, a brand-new chassis, MediaNet Smart functionality and a redesigned GUI.

Of course, this being a Loewe television, the technology is only part of the story. It's the bespoke nature of the Reference ID TV that is key to the luxury brand's identity, with Loewe UK managing director James McConnell claiming that prices on the new range, 'start at around £4,500 and go up to infinite. It's really what you want to make of it'.

The lineup will launch in the UK in three phases. The initial launch in July will take the form of the 'basic' aluminium frame model with a choice of four speaker cover designs (Black, White, Black Rhombus and



**Martin Steib:** 'The Reference ID is not only a television. It's also supposed to be an element of interior design'

Beige Rhombus). Additional frame colours and materials, plus further speaker cover designs, will follow a month or two later. Then, before the year is out, the full 'bespoke tailoring' concept will be launched, allowing customers to incorporate their own materials and motifs (one example given to us being a family crest) into the TV's design.

### System addicts

The Reference ID TVs can also be paired with matching satellite speakers and a subwoofer to create a complete 5.1 package – something the brand is keen to encourage its customers to take up.

'It's something we want to emphasise even more in the future. We are in the process of moving from being a TV manufacturer to a system provider. This is what we think should be the strength of Loewe in the future,' announced company head of marketing Martin Steib.

Given Loewe's premium status and the fact that there's currently nothing more premium in the AV industry than 4K, HCC couldn't resist asking if an Ultra HDTV was on the cards. '4K is on the horizon [at Loewe]. My personal opinion is that 4K is a must-have,' revealed Steib. 'It's also connected to our discussions about getting into bigger screen sizes. For a certain screen size, like a 55in panel, Full HD is okay, but we're now planning to get into 70in. And in that context, talking about bigger screen sizes, 4K is something that cannot be ignored. You'll hear a lot of noise at [the IFA trade show] in September'.



The bespoke Reference ID can be tailored to match any setting



## PLAYLIST...

Team HCC spins up its disc picks of the month

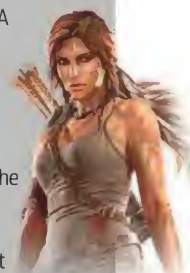
### The Last Stand (Region B BD)



Schwarzenegger's return to the action genre packs a heck of a punch on Blu-ray thanks to a bombastic DTS-HD MA 7.1 soundtrack

### Tomb Raider (Xbox360/PS3/PC)

Gaming icon Lara Croft blasts her way back to the top of the third-person action-adventure genre with this flawless reboot



### For All Mankind: The Many Faces of Mick Foley (Region B/C BD)



This incredible 134-minute tribute to the pro-wrestling icon is a blast on Blu-ray, and comes bundled with a bonus disc of exclusive extras

### Ultraviolet: Collector's Edition (R2 DVD)



A welcome re-release for this short-lived, but fondly remembered, 1998 vampire series

### Slice & Dice: The Slasher Film Forever (R0 DVD)



An entertaining double-DVD celebration of the slasher genre supported by fun bonus goodies



## EXTRAS...

Small items that make a big impression

### Superman: The Ultimate Guide to the Man of Steel



Get up to speed on Superman's comic book history with this lavishly illustrated £18 guide to everything from his creation to the recent *New 52* shake-up that rocked DC Comics.

### Doctor Who Scarf



Celebrate 50 years of *Doctor Who* with the ultimate geek chic accessory – an official replica of the fourth Doctor's iconic scarf. Yours for just £45 from [www.prezzybox.com](http://www.prezzybox.com).

### Game of Thrones: Pop! Vinyl Figurines



Daenerys Targaryen, Tyrion Lannister, Ned Stark, Khal Drago, The Hound and a White Walker make up this first wave of über-cute 3.75in vinyl *Game of Thrones* figurines. Grab your favourite for just £7.

### Doctor Who: Character Encyclopedia



From the Abzorbaloff to Zygons, this £13 tome packs in more than 200 characters and creatures from the entire history of the sci-fi series.

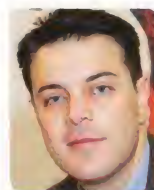
# Web retail works for Finlux

'We're trying to do what Dell did with PCs,' reveals online-only AV brand

Finlux, once of Finland, is enjoying a new-found lease of life in the hands of Turkish parent company Vestel, and seems to be that all too rare example of a success story in TV land. *HCC* met with Andreas Adamides, Head of FinluxDirect, who explained how the brand has delivered enviable results.

Since its launch in late 2011, the FinluxDirect website has had over one million hits, and sales have grown massively, with the final quarter of 2012 exceeding the previous three put together. Adamides claims that one in five screens sold in Europe is now made at the company's factory in Turkey, which produces around one million TVs every month.

Adamides says the Finlux call centre in Durham is hiring new staff all the time and its warehouse in Leeds is chock full of screens. 'We're trying to do what Dell did with computers,' he explains. 'The big difference is we also manufacture our products. This means we can respond much quicker to demand, and compared with most other TV makes we have lower transport costs.'



**Andreas Adamides:** 'We're happy to be mid-market and we don't worry about the competition too much'

Just because it only sells online, Adamides says people shouldn't make the mistake of assuming Finlux is a budget brand: 'We're happy to be mid-market and don't worry about the competition too much. We do our own thing, which is to offer value, style, high-quality specification and a high standard of customer service'.

### Consumer feedback

It's refreshing to hear a manufacturer happily admit that they end up following other people's ideas, with Adamides declaring: 'Rather than look at our competitors we look at the consumers and respond to what they want.' From feedback received online, Finlux is adding PVR USB recording to all its screens and improving its Smart TV hub so that by the Summer it will have Netflix, Skype, and OpenBrowser.

At the Gadget Show in April, pre-orders for the 65in 65F8200-T screen sold out, but Adamides says more people were impressed by the upcoming 55S9100-T 'frameless' LED screen. He also revealed to *HCC* that 4K is in the pipeline and even OLED is under consideration.

Before then, the brand is moving into the audio sector with its SonaX3, a £200 cuboid 'soundbar' with Bluetooth functionality and a built-in sub.



# Six of the best from Pioneer

VSX AV receiver range to be bolstered by a sextet of new models this Summer

**Add 4K upscaling to your system with Pioneer's new 7.1-channel VSX-923**



If you're on looking to replace your ageing AVR with a model that's a little more tech-savvy, chances are that Pioneer has something to suit with its Summer 2013 mid-range lineup.

Six new models will be joining the VSX series this June: the VSX-323 (£200), VSX-423 (£250), VSX-528 (£300), VSX-828 (£350), VSX-923 (£450) and VSX-1123 (£550) – all offering expanded iOS and Android support and

related features previously only found on the company's SC models.

The range-topping 7.1-channel VSX-1123 and VSX-923 (pictured) look particularly enticing, thanks to their 4K upscaling and the inclusion of a Zone 2 HDMI out (dubbed HDZone) for digitally routing either the same signal as the main zone or a separate source to a second zone. A third audio-only zone can also be powered by the receiver and controlled via Pioneer's iControlAV2013 app.

The VSX-1123 also offers playback of audio files stored in the DSD (Direct Streaming Digital) format through its front USB.





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## DIARY

Our calendar ensures that you don't miss out...

### → MAY

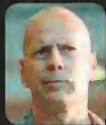
#### 31: Byzantium

Director Neil (Interview with the Vampire) Jordan returns to the horror genre with a stylish new vampire flick that will be taking a bite out of the UK box office today. [www.studiocanal.co.uk](http://www.studiocanal.co.uk)

### → JUNE

#### 03: The Great Escape

Enjoy the sight of Steve McQueen leaping that fence in hi-def as the legendary World War II epic finally makes the break for Blu-ray. [www.fox.co.uk](http://www.fox.co.uk)



#### 10: A Good Day to Die Hard

Yippee-ki-yay! The uncut version of the latest Die Hard sequel breaks cover on BD

today alongside more than two hours of 'explosive' extra features. Beware: the DVD release only includes the edited UK cinema cut of the film. [www.fox.co.uk](http://www.fox.co.uk)

#### 14: Man of Steel

Is it a bird? Is it a plane? No, it's what studio Warner Bros promises will be the most action-packed Superman film ever made – and with Zack (Watchmen) Snyder behind the camera, we're inclined to believe the hype! Out in cinemas today. [www.warnerbros.co.uk](http://www.warnerbros.co.uk)

#### 20: The Electric Event

This three-day trade event at the Birmingham ICC promises a 'Meet the Suppliers' exhibition and a presentation by CEDIA on the future of home automation. [www.electricevent.co.uk](http://www.electricevent.co.uk)

#### 21: World War Z

Get ready for an outbreak of the undead at UK cinemas with the arrival of this mega-budget zombie film starring Brad Pitt. [www.paramountpictures.co.uk](http://www.paramountpictures.co.uk)

#### 24: Broken City



Russell Crowe, Mark Wahlberg and Catherine Zeta-Jones star in this tale of an ex-cop looking for redemption in a city rife with corruption. Catch it on Blu-ray and DVD. [www.studiocanal.co.uk](http://www.studiocanal.co.uk)

#### 27: HCC #223

Your favourite dedicated home cinema magazine hits the stands today, packed with hardware tests, features, outspoken opinion and in-depth software reviews. [www.homecinemachoice.com](http://www.homecinemachoice.com)

# Recreating realism on screen

Revealing the secrets behind *Zero Dark Thirty's* visual effects



*Zero Dark Thirty* may not immediately get grouped with other FX blockbusters, but the film relies heavily on the wizardry of fast-rising Vancouver special effects house Image Engine nonetheless. Visual Effects Supervisor Chris Harvey says he's happy to remain out of the limelight. The fact that few people realise just how FX-heavy it is simply means he did his job well.

'It's kind of a back-handed reward,' he tells HCC. 'No one thinks you were there and you don't get any thanks for it, but I like working on these kind of movies as much as the big fantasy ones. They're just rewarding in a different way...'

Harvey says the brief was to keep things realistic. It was really important for the director that the movie never looked like an FX film, he says. 'Kathryn never wanted it to be a spectacle. It had to be very raw, very authentic, very gritty.'

A veteran of huge FX movies including *Tron: Legacy* and *Battleship*, Harvey says *Zero Dark Thirty* offered plenty of unique challenges. Not least because of the low light levels. 'It was extremely dark. I've never worked on anything like it before. Kathryn referred to it as no-light filming, and it really was. Normally you've always got some kind of light to play with, because it's there for a cinematic purpose. You know, a nice big rim light or something like that. But she didn't have any of that in there because it wasn't the style she was going for.'

And then there were the helicopters. 'They also had to be very dark,' he recalls. 'By their nature these are basically big black surfaces; they don't catch light really nicely. That added a lot of technical complexity to the VFX work.'

### Helicopter headaches

As Harvey relates it, the helicopter was to prove the bane of the production. For starters, no one actually knows exactly what a US stealth chopper looks like. 'We had some information to work on, but no blueprints. The production team talked to



**Chris Harvey:** 'Kathryn never wanted the film to be a spectacle. It had to be very raw, very authentic, very gritty'

someone afterwards who has actually seen one of these things, and apparently our model was remarkably close.'

Unfortunately, all the early helicopter effects work was scrapped at the eleventh hour when new information came to light about the actual crash in Osama Bin Laden's complex. Having to go back to square one just a month and half before deadline was 'a little bit unnerving,' admits Harvey.

### High Frame Rate filmmaking and 4K

Harvey is also very excited by the seismic changes currently shaking up in the movie industry. 'Film makers are looking for ways to increase the fidelity of what you see on the big screen. They want movies in the theatre to be a bigger and better experience than what you have in the home.'

He predicts that HFR (High Frame Rate) 48fps will have the biggest impact on the evolution of visual effects. 'It may only be double the data, whereas 4K is four times the data, but doubling the frame rate essentially cuts motion blur by half, and that makes everything much sharper. The detail you see is far less forgiving; detail is very high as its never going to be slightly blurred with motion blur.'

Harvey also tells us he's a fan of 3D. 'It has the potential for being a whole new medium for telling a story. There are a few filmmakers out there using it that way, and I think really successfully.' So what's his favourite 3D outing? While he rates *Avatar* and *The Hobbit* highly, he declares *How To Train your Dragon* his favourite use of stereo to date. 'I think they did a fantastic job of it...'

*Zero Dark Thirty* is released on Blu-ray and DVD on 10 June from Universal Pictures (UK) and is reviewed on p97.



This month's top 10 news stories in handy, bite-sized chunks...



**1 LG throws a curve-ball**  
LG has beaten Samsung to the punch and become the first TV manufacturer to bring a curved OLED TV to market. The 55EA9800 went on pre-order in South Korea at the end of April, priced 15million won (roughly £8,725), with LG claiming that the screen delivers an 'IMAX-like' experience in the home. The company says it will announce release dates and pricing for other territories in the coming months.

**2 Sky high**  
Sky's customers are watching more on-demand content than ever before, according to new information released by the sat-caster. The figures show that the average number of weekly downloads reached 4.5million in the first three months of 2013, an increase of 460 per cent on 2012. It also shows a 37 per cent year-on-year increase in the number of movie rentals on Sky, with more than 400,000 customers renting *Skyfall* in the quarter.

**3 Blu-ray sales boost**  
Latest figures from the BVA (British Video Association) show that consumers spent £536.3million on video entertainment in the UK between January and March. Physical disc sales accounted for £362.1million, up 7.2 per cent on the same period last year. Blu-ray disc sales for the period saw a year-on-year increase of 44 per cent.

**4 Atomic filmmaking**  
A team of nutty professors at IBM Research has succeeded in making the world's smallest movie. The one-minute long stop-motion animation titled *A Boy and His Atom* was achieved by moving carbon monoxide molecules viewed through a scanning tunnelling microscope.

**5 BDA talks 4K Blu-ray**  
The BDA (Blu-ray Disc Association) has confirmed that a special task force spent the first three months of the year studying the potential for expanding the Blu-ray format to enable the playback of 4K content. The official statement says that they are now 'evaluating the various technologies' that have been proposed. Hurry up.

**6 Bye-bye bonuses**  
Sony chief executive Kazuo Hirai is one of 40 bosses at the company who have pledged to forgo their bonuses (worth an estimated £6.6million) this year after failing to return Sony's consumer electronics division back to profit. Executives in the division gave up their bonuses last year, but this marks the first time that senior management in the group have done the same.

**7 Game, set and match for 4K**  
Reports indicate that Sony and the BBC will be joining forces to trial 4K TV broadcasting at the Wimbledon tennis championships this Summer. Sony will be providing outside broadcast trucks and camera equipment to capture the 4K footage. The Beeb clearly thinks that Wimbledon is the perfect proving ground for TV tech, having trialled both high-definition and stereoscopic broadcasts there in previous years.

**8 Feeling Peaky**  
CBS has confirmed that it is working on bringing more of its catalogue TV shows to Blu-ray following the success of *Star Trek: The Original Series* and *The Next Generation*. Top of the list of candidates? David Lynch's seminal series *Twin Peaks*!

**9 Viewster makes an impact**  
Wrestling and mixed martial arts fans can relive some of their favourite fights for free after ads-funded video-on-demand service Viewster inked deals with the Ultimate Challenge Mixed Martial Arts and TNA Wrestling allowing it access to the organisations' back catalogues.

**10 GoT trouble down under**  
US official Jeffrey Bleich has attacked Australian fans for illegally downloading episodes of *Game of Thrones*. 'As the Ambassador here in Australia, it was especially troubling to find out that Australian fans were some of the worst offenders', wrote Bleich in a Facebook post. Referring to claims that the downloads were in response to the time delay between US and Australian broadcasts, he added, 'None of those reasons is an excuse – stealing is stealing.'



## PREMIERE

What's happening in the world of TV and films...

### Is JP4 extinct?

Universal has put the brakes on *Jurassic Park 4*'s production to 'give the filmmakers adequate time to bring audiences the best possible film'. But rumours persist that the situation may be far more serious.

### Kickstarting Mars



The long-mooted *Veronica Mars* movie is finally set to hit the big screen. Giving up on the major studios altogether, creator Rob Thomas and star Kristen Bell turned to the fans instead. Using crowdfunding site Kickstarter, they managed to raise more than \$5million in a month from donations, more than double the original \$2million target needed to make the film a reality.

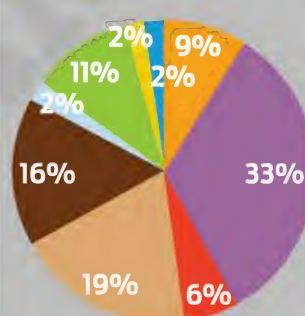
### Scream for TV

MTV has ordered a one-hour pilot for a new series based on the *Scream* movies. As yet, there's no word on whether Kevin Williamson or Wes Craven will be involved with the show in any capacity.

## WE ASKED...

What brand is your main television?

■ LG ■ Panasonic ■ Philips  
■ Pioneer ■ Samsung ■ Sharp  
■ Sony ■ Toshiba ■ Other



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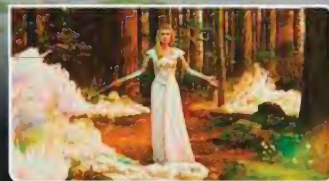


# Which witch?

Oz the Great and Powerful 3D  
→ All-region BD/R2 DVD → Walt Disney



While you'd be well within your rights to be wary of any attempt to make a follow-up to MGM's 1939 masterpiece *The Wizard of Oz*, this stereoscopic prequel has one big thing going for it – the presence of virtuoso director Sam Raimi behind the camera. Having built a cult following with the *Evil Dead* films, before showing Hollywood that he could easily handle mega-budget blockbusters with his *Spider-Man* trilogy, Raimi is one of the few filmmakers with a wild enough imagination to make a return journey to Oz an exciting prospect. Find out if our faith is justified when *Oz the Great and Powerful* hits Blu-ray, 3D Blu-ray and DVD in the UK on July 1st.





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HIGH END  
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**H**unting for a multichannel package that's equally awe-inspiring with movies and music? Look no further than DALI's Epicon. It sounds... epic.



**Mark Craven's** passion for multichannel audio has reached the point where he wants to fit a subwoofer to his bedside clock radio





**DANISH AUDIO MARQUE DALI** (an acronym for Danish Audiophile Loudspeaker Industries, in case you're wondering) is renowned in the hi-fi world for its no-compromise high-end cabinets. Its flagship model, aptly named the Megaline, stands over 2.3m high and presents a front panel armed with no fewer than 30 drivers. It's the kind of speaker to send two-channel fans into a state of ecstasy.

For home cinema setups, DALI buyers have to look below the Megaline to the brand's Epicon range, auditioned here. Yet this really isn't much of a step down – the culmination of thirty years of meticulous R&D, the Epicon lineup is where DALI has focused plenty of effort and, thankfully for multichannel addicts often ignored by premium speaker brands, it's seen fit to offer standmount models and a dedicated centre channel enclosure. A high-end 5.1 array is therefore possible. ➤





And high-end it most certainly is. The six-speaker setup here comes to market with a £17,000 price tag. Budget buyers should look elsewhere.

### Meet the team

The system comprises a pair of Epicon 6 floorstanders for the front left and right channels, the Epicon Vokal centre speaker, Epicon 2s for the surround channels and a SUB P-10 DSS subwoofer on LFE duty.

The latter, as you may have guessed from the name, isn't an official part of the Epicon range – there is, in fact, no Epicon-branded woofer. This means that, stylistically, it's not quite an aesthetic match, unless you get it in its gloss black finish and specify the Epicons in the same flavour. Our eclectic lineup features the Epicon 6s in the more sumptuous Ruby Macassar guise, while the Epicon 2s are dressed in Walnut.

**'The lacquer finish begs to be touched and the curved edges and sloping cabinet are easy on the eye'**

All the cabinets are highly attractive and built to exacting standards. The Epicon 6s are perhaps not as big as you might expect considering their £7,800-per-pair ticket, but that will make them easier to house. The lacquer finish begs to be touched and the curved edges and sloping cabinet are easy on the eye (of course, the shape isn't all about styling, as it helps eliminate standing waves). Each cabinet is constructed from six layers of MDF and given 10 coats of lacquer. The quartet of binding posts on each (enabling bi-amping should you wish) feel supremely solid.

Remove the magnetic grilles and you can feast your eyes on DALI's drivers. The Epicon 6 incorporates two 6.5in mid-bass cones, made from a proprietary wood fibre material, and a pair of high-frequency drivers, one a soft dome and the other a ribbon design. DALI denotes this as a 'two-and-a-half-and-a-half-way' design.

Behind the scenes, there's some clever technology going on. DALI's self-developed non-conductive Soft Magnetic Compound (SMC) is employed in the driver magnet system to reduce distortion across the frequency range of the mid-bass cones – and each of these is ported via its own internal chamber, allowing each to be individually tuned. DALI supplied me with its white paper, but to convey the engineering involved in these speakers would require a whole other magazine. Needless to say, the



engineers didn't spend a quarter of a century simply looking at different lacquer finishes.

The Epicon 2s, which would typically be mounted on optional stands, feature one 6.5in wood fibre driver and a soft dome tweeter, and sport a similar cabinet shape.

The Vokal speaker, on the other hand, offers the same driver complement as the Epicon 6s, housed in – and I'll be honest here – one of the largest enclosures I've yet seen for a centre channel speaker. You'll need to think about where you're going to place it.

The aforementioned SUB P-10 DSS woofer features a trio of 10in drivers – one downward-firing and powered by a 500W on-board

power plant; two side-firing and un-driven. It's nice to look at and not outrageously large. A small remote is on hand to adjust levels from the comfort of your listening position.

The venue for this bout of high-end audio appreciation was Hi-Fi Cinema, a specialist AV retailer and licenced DALI dealer based near Reading. This was partly for convenience – I didn't fancy setting up this expensive array in my own house – and partly because it has the front-end to do the Epicons justice. So, with an Oppo BDP-105EU spinning discs and a combination of Anthem and Naim separates providing the grunt, I settled onto the sofa in Hi-Fi Cinema's spacious demo room. ➤



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Alan Gornall, the genial, movie-mad general manager, even brought me a cup of tea. Time to begin.

### Beautiful mixture

There's no point beating about the bush – this system sounds awesome, up there with the very best multichannel packages I've heard. It delivers a beautiful mixture of clarity, detail, energy and scale.

The Epicon 6s are the stars of the show. Floorstanding speakers designed very much with the hi-fi market in mind, the qualities they possess work equally well with film soundtracks. I did, however, begin with some straight, two-channel material, enjoying the way the second bass driver, which is active below 600Hz, plumbs the depths, quickly and tightly, to track the basslines of my Chase and Status CD. The higher frequency sounds, meanwhile, including the percussive 'tings' and various electronic ticks, were lush.

But enough of my roughly-mastered CD – time to don a hi-fi hat and savour some 'known-good' multichannel tracks – namely Pink Floyd's *Time* and, er, Tchaikovsky's *1812 Overture* (sometimes, you just have to follow the crowd). Here, the transparency and sheer clarity of the Epicon system really came to the fore, with the discordant clocks that open the Pink Floyd song ringing so sweetly from

**'There's real scale here – with the rear channels in action, the effect is a wonderfully detailed wall of sound'**

all around the soundstage, with such unnerving placement, that I felt like a cat burglar in a Howard Miller factory.

When the instrumentation finally kicks in, the speakers' effortless performance across the entire frequency range is apparent. Everything from the lightly-driven guitars and thumping drums to the iconic basslines and David Gilmour's vocals sounds cleanly separated and extremely articulate. Tonal differences are immediately apparent.

There's real scale, too. With the rear channels in action, the effect is a wonderfully three-dimensional wall of sound, only built from individual elements rather than an unseemly mush. The subwoofer, meanwhile, adds a musical, rich low-frequency presence to the whole shebang, without drawing overt attention to itself – until the climatic cannon fire of Tchaikovsky's masterpiece, that is, where it underpins the artillery with real force.

For movies, I opted first for *Casino Royale* and the famous free-running sequence, and





DALI's proprietary 'hybrid' tweeter arrangement delivers immaculate high-frequencies

the Vokal centre channel quickly earned its crust. This is no mealy-mouthed squawk box; character's voices come through with potent weight when required, but delicacy, too. Bond's mic'd voice whispers urgently in the ear of his inexperienced fellow agent, warning him to keep his cover in the presence of bomb-fanatic Mollaka, and it sounds frighteningly authentic. Then, when Mollaka realises he's been rumbled, the soundtrack introduces a number of effects which the DALI system revels in – Mollaka's panicked breathing, falling brickwork, whistling wind atop the crane...

*The Expendables 2* offers a far more chaotic soundstage, with the film's sound engineers seemingly deciding to jettison any attempt at dynamic subtlety in favour of a relentless barrage of sonic mayhem. The Epicon array proves unfazed, keeping the various explosions, gunshots, engine rumbles and shouted dialogue of the opening sequence as distinct as possible even with the volume ramped up to ear-bothering levels. The room filled with noise, the subwoofer – called upon almost constantly here – sounded weighty and authoritative, and when Terry Crews pulls out the World's Biggest Gun to deal with a corridor of goons, the forceful impacts from the Vokal centre channel were so intense I whooped with glee. As I like to do. Further on, when the mercenary gang finally unveil the hooded captor as none other than Arnold Schwarzenegger ('dis is embarrassing') I was keenly aware of crackling flames in a brazier in the room's corner, which I'd never clocked before.

Other movies continued to delight. The battle with the Romulan spaceship in *Star Trek* (2009) again highlighted the system's ability to create an immense, effect-filled soundstage; *Superman Returns*, and the sequence where our future hero crashes to Earth, gave the array a chance to really show off its low-frequency prowess.

### Nothing to complain about

Criticisms? I have very few.

As mentioned, the centre channel does seem almost comically big, but considering its performance I'd be happy to live with it.

In terms of sheer scale and power, the JBL Synthesis array I reviewed last year outmuscles this setup – but that was a 7.2-channel system, built to be listened to but never looked at, with its own dedicated amplification and processing and an asking price of nearly £80,000. So hardly a fair comparison.

In short, this is a speaker package that I want. The build and design is superb. DALI has mixed traditional looks with a bit of modern styling, and I can't see these cabinets being out of place in any environment.

Most importantly, they sound fabulous, whether it's with energetic movie soundtracks or more sedate music material. Audition without fear! ■

### SPECIFICATIONS

#### EPICON 6

**DRIVE UNITS:** 2 x 6.5in wood fibre cones; 1 x 2in ribbon tweeter; 1 x 1in soft textile dome tweeter  
**ENCLOSURE:** Rear-ported  
**FREQUENCY RESPONSE:** 35Hz-30kHz (+/- 3dB)  
**SENSITIVITY:** 88dB  
**POWER HANDLING:** 300W  
**DIMENSIONS:** 1,025(h) x 232(w) x 441(d)mm  
**WEIGHT:** 30kg

#### EPICON 2

**DRIVE UNITS:** 1 x 6.5in wood fibre cone; 1 x 1in soft textile dome tweeter  
**ENCLOSURE:** Rear-ported  
**FREQUENCY RESPONSE:** 47Hz-30kHz (+/- 3dB)  
**SENSITIVITY:** 87dB  
**POWER HANDLING:** 200W  
**DIMENSIONS:** 386(h) x 214(w) x 366(d)mm  
**WEIGHT:** 10.3kg

#### EPICON VOKAL

**DRIVE UNITS:** 2 x 6.5in wood fibre cones; 1 x 2in ribbon tweeter; 1 x 1in soft textile dome tweeter  
**ENCLOSURE:** Rear-ported  
**FREQUENCY RESPONSE:** 49Hz-30kHz (+/- 3dB)  
**SENSITIVITY:** 89.5dB  
**POWER HANDLING:** 300W  
**DIMENSIONS:** 247(h) x 816(w) x 349(d)mm  
**WEIGHT:** 18.4kg

#### SUB P-10 DSS

**DRIVE UNITS:** 1 x 10in active long-throw woofer; 2 x 10in passive long-throw woofers  
**ENCLOSURE:** Sealed  
**FREQUENCY RESPONSE:** 24Hz-250Hz  
**ON BOARD POWER:** 500W  
**REMOTE CONTROL:** Yes  
**DIMENSIONS:** 370(h) x 340(w) x 340(d)mm  
**WEIGHT:** 19.5kg  
**CONNECTIONS:** LFE input; stereo phono input

### HCC VERDICT



#### DALI Epicon 5.1

→ £17,000 Approx → [www.dali-uk.co.uk](http://www.dali-uk.co.uk)  
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**HIGHS:** Gorgeous cabinets and rock-solid build quality; astonishing performance with music and movies; clean, full-bodied sound across the frequency range

**LOWS:** Subwoofer only available in black or white; very large centre channel; premium price point

Performance ★★★★★

Design ★★★★★

Features ★★★★★

Overall ★★★★★



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# Is the future of home cinema **RED** NOT **Blu?**

Ultra HD is arriving in home cinema as downloads rather than discs. **Jamie Carter** reports on the web-connected REDRAY 4K Cinema Player

WHEN UNIVERSAL STUDIOS announced earlier this year that it was to release *Schindler's List* on its twentieth anniversary as a special edition Blu-ray, the PR blurb was all about how the 35mm film original negative had been meticulously restored in pristine high-definition. More importantly, Steven Spielberg's 1993 classic was actually scanned to create a 6K master, then downscaled to 4K for the restoration, and down to lowly 2K, or 1080p, for the Blu-ray edition.

Proof, if any was needed, that the days of mere high-definition – and possibly that of the Blu-ray format itself in the wake of the lukewarm reaction to home 3D – are severely numbered. The past year has seen Peter Jackson, with his *The Hobbit: An Unexpected Journey*, and many other Hollywood directors, Olympic sports broadcasters and other projects, experiment with bigger resolutions and frame rates. Meanwhile, the big TV brands have started selling Ultra HD TVs – and some are close to launching their second-gen attempts.

The future is 4K, but with a Blu-ray standard currently nothing more than a pipe-dream, how will this revolution in resolution translate into home cinema? Step forward the REDRAY 4K Cinema Player, a black box that hopes to change the way we watch movies. ➤





Coming to market with an initial price of around \$1,500, how does the rather industrial-looking REDRAY differ from a Blu-ray player? 'Very significantly,' says Stuart English, Workflow Wizard at RED Digital Cinema, the Los Angeles-based company that also manufactures 4K cameras and post-production software and equipment. 'It's not an optical disc-based product. Instead it's using data files delivered via the internet, USB flash drive or SD card. In many ways it's closer to an internet-enabled set-top box that receives its video as data files – rather than as compressed video from a cable or satellite provider – saving the data to the internal 1TB hard drive for later playback or long-term archive.'

### Close quarters

In a demo at the CES technology expo this year in Las Vegas I got the chance to see the REDRAY up close. The exhibit featured two examples of Toshiba's upcoming 84in Ultra HD TV, one being supplied by 1,920 x 1,080 images by a Blu-ray player – promptly upscaled by Toshiba's powerful CEVO 4K Quad picture engine – and the other fuelled by native 3,840 x 2,160 content from REDRAY. Although the upscaled film trailers from the quarter-quality Blu-ray had strong colour and well-defined, smooth edges, the REDRAY alongside it created an intense detail and depth that was impossible not to favour. Really exploiting those extra pixels, images appeared both brighter and far, far deeper.

Not that REDRAY doesn't upscale. Like some modern Blu-ray players (notably Sony's BDP-S790, Panasonic's DMP-BDT330 and Samsung's BD-F7500), REDRAY can decode MP4 content at 720p or 1080p and can then upscale it to 4K resolution. REDRAY doesn't play Blu-ray discs, however – there's no optical disc tray – but

otherwise its flexibility with 'new' sources is extensive. 'What we are doing is creating a product that can have data securely sent to it by a variety of methods – USB, SD card, internet – from anywhere in the world where that content is created,' explains English. 'It's a very open system, meaning many kinds of content owner can exploit it, whether they are independent film production companies, advertising agencies, churches, schools, medical facilities or theme parks.'

The idea of buying an Ultra HD film on an SD card, or transferring it via a USB stick, might seem odd, but REDRAY isn't just aimed at home cinemas. 'We wanted to design a very flexible product so we could encourage very rapid development of the 4K markets,' reveals English, who fully expects the machine to be used in digital cinemas, post-production suites and by the digital signage industry, as well as in home cinemas.

For maximum flexibility, the REDRAY is fitted with five HDMI outputs. 'Different panels need different inputs, which can vary between one HDMI and four HDMI cables,' explains English. There's also a dedicated HDMI output for taking 7.1-channel LPCM 24-bit/48kHz from REDRAY to an AV receiver.

Elsewhere, the REDRAY has two Ethernet ports, Wi-Fi, and an E-SATA hook-up for expanding the hard drive capacity. 'Even though the internal 1TB drive provides around 100 hours of storage, we understand clients really want more,' says English. He's probably right.

### Dressed to compress

At the time of writing, the delivery mechanism is still being thrashed-out, but it's definitely going to involve downloads. And that means compression – and lots of it. Rather alarmingly, Ultra HD footage is going to be compressed by as much as 500:1. The original TIFF files captured by one of RED's

## OTHER 4K SOURCES...

Get a UHD TV and these could be your saviour

### Sony PlayStation 4



This forthcoming console revamp will work with

Sony's UHD movie download service. While that service is only planned for the US at present, a European version seems likely at some point. In the meantime, you can use the PS4 to view your 4K digital stills.

### YouTube



The online video giant has actually been

hosting 4K videos since 2010, and its initial five-strong playlist has now been joined by many more. Content is predictably arty – swirling ink blots, galloping horses – but it makes for nice demo footage for your new telly.

### Netflix



After debuting the concept at CES, VOD

behemoth Netflix says it expects to offer 4K streaming within two years. First on the menu will probably be its own *House of Cards* series, which was shot at 4K.



A lack of native 4K content isn't stopping TV manufacturers like LG bringing UHD sets to market



4K-capable cameras – the EPIC, Scarlet or RED One – have a data rate of 10Gb/s, while the download will be reduced to 2.5Mb/s to achieve a just about manageable MP4 file size of around 9GB for every hour of Ultra HD.

But does that compression affect the image quality? 'The question really is "how do the images look?" and the answer to that is essentially the

**'We wanted to design a very flexible product so we could encourage rapid development of the 4K markets'**

same as you will see in a 4K-equipped cinema,' claims English, who explains that the compression codec is a RED proprietary technology. 'As with our cameras we have to invent practical solutions to the new technical challenges that 4K and higher resolutions bring.'

If you've not yet got an Ultra HD TV or projector, purchasing the REDRAY player could be an awfully ambitious attempt at future-proofing. However, early adopters might be keen. So far, only US-based buyers of Sony's UHD screens have a content solution in the shape of the FMP-X1 4K media player, which comes pre-loaded with hi-res movies from Sony Pictures Home Entertainment (SPHE). Everyone else, including UK buyers of Sony's £25,000 84in screen, find themselves empty-handed.

### Aiming higher

SPHE also has plans for a 'Mastered in 4K' line-up of Blu-ray discs this Summer – 1080p encodes culled from a 4K master. This is nothing new, and the branding might seem like a last-ditch marketing ploy to eke out something more from Blu-ray before it gives way to Ultra HD and downloads, but there are huge advantages to shooting in a higher resolution only to downscale it for mass consumption. That applies along the whole chain, too; RED's EPIC camera even captures in 5K resolution. 'The principle of oversampling applies to images just as it does to sound, so 5K to 4K leads to a richer 4K experience, just as 4K to 2K or HD leads to a richer 2K or HD experience,' says the RED honcho.

This means that his company's gizmo might even excite regular TV owners: 'REDRAY playback to a 4K TV or 4K projector provides a cinema-like experience, but even when connecting to an existing HD resolution display or projector, there are still significant visual benefits of downscaling to HD from a 4K source.' English maintains that this comment is true when comparing REDRAY to any of the existing content distribution methods, not just Blu-ray. 'Of course, Blu-ray is what most people perceive as the highest-quality content source available into the home today.'

With the arrival of REDRAY, that could be about to change ■



BD players like Panasonic's DMP-BDT330 (bottom) and Samsung's BD-F7500 (middle) offer 4K upscaling; Sony's FMP-X1 4K media player (top) will go on sale in the US this Summer for \$700, pre-loaded with 10 movies

## 'THE SPINNING DISC HAS GONE THE WAY OF THE DINOSAUR'

...and Full HD just doesn't cut the mustard



Ted Schilowitz, co-founder and 'leader of the rebellion' at RED Digital Cinema, explains to HCC how the REDRAY aims to pioneer a download distribution model for Ultra HD content.

**Do you think we'll see Ultra HD Blu-ray discs?**

'That's an interesting question because it's kind of a forgone conclusion in everyone's mind that the idea of a spinning, deliverable disc has gone the way of the dinosaur. The ability to download material and store and play it is a much more viable strategy and it's a part of what REDRAY does. We're delivering a 4K experience at under 10Mb/s – and we're talking cinema-level 4K, not just computer-level 4K – and we've been showing that at our studio to people from the industry, and their jaw dropped. We can go higher if we want to, but 9-10Mb/s is a pretty good sweet spot for downloading and keeping hundreds of hours of content on the box, initially on a 1TB hard drive. Just like resolution is upping, broadband is upping and changing, especially in the Far East and emerging markets.'

### How will the Ultra HD download service for the REDRAY play out?

'It's something that's emerging for us. The first thing we're doing is presenting the hardware out into the marketplace and a lot of this stuff is in meetings and discussions now. There is one service that we've announced called Odemax ([www.odemax.com](http://www.odemax.com)) that will be one of the clients on the player, but it won't be the only one. I'm not at liberty to say just yet, but you can assume who the usual suspects are – and more – for services that have content and want to deliver content on our box. The REDRAY is an appliance that's designed to be flexible. There are lots of veins of 4K content, whether that's independent content, big studio content, classic remastering of movies shot in large-format film. All will have a place on this platform.'

### Does it matter that the step beyond Ultra HD – Super Hi-Vision or 8K – is already widely known about?

'I don't think so. From a strategic standpoint, resolutions are just a moment in time. It's what technology will allow, it's what companies will drive, and it's about the economic model. Super Hi-Vision is very impressive – it just goes to show what the technology is capable of. There's no question that all of that drives down into the mainstream environment at some point, and that customers will want it. It's another better experience that they can taste and feel.'



The Blu-ray of Mario Bava's *Black Sunday* is just one of the cult classics White has restored for Arrow





# Aiming for perfection

**Anton van Beek** talks to film restoration maestro **James White**, one of the talented people helping to transform independent UK Blu-ray label Arrow Video into the 'cult film version of the Criterion Collection'



James White supervised a 2K digital restoration (bottom) of *Time Bandits* from the camera negative (top)

**HAVING GOT HIS** start working in New York's George Eastman House archives – home to one of the largest collections of silent films in the world, as well as a good portion of Martin Scorsese's own private collection – James White has become one of the leading lights of film restoration in the UK.

With a body of work that includes restorations for the BFI and Masters of Cinema, White recently joined forces with Arrow Video as Restoration Supervisor on a raft of cult movies. Following a sneak peek at clips from some of the projects he is currently working on for Arrow (*Time Bandits!* *White of the Eye!*), I had the pleasure of sitting down with White to discuss his work with Arrow Video and how the label is reinventing itself...

**The past decade has seen a huge shift from photochemical to digital restoration. What has that been like from an insider's point of view?**

'When I started, restoration was approximately 80 per cent photochemical, 20 per cent digital. Today it's the complete opposite. I was fortunate to come along just as that transition was happening. So I already had a grounding in photochemical labs and working hands-on with film. That knowledge has proved extremely useful in letting me know how digital technology could have an impact upon film both positively and negatively.

'Early digital restoration software was fairly crude and didn't treat the photochemical image with the kind of respect and sensitivity that you'd require these days. Fortunately the tools have become much more sophisticated since then.'

**Is there still anything that digital restoration doesn't offer that photochemical did?**

'Whenever you're dealing with digital, you're dealing with an approximation of what that film image should be. As advanced as digital technology has become, there's something intrinsically different about how light interacts with silver halide crystals and gelatin. The organic chemistry of that process, the rawness of it, always produces results that digital technology can only approximate so far.

'That said, we can do things in digital today that we could never have done just a few years ago. For the most part, the rapid development of digital restoration – and I know that I'm arguing against a few traditionalists here – has been amazing for film. We can now resolve issues on films that we could only tackle so far with photochemical means. I'm talking about severe film damage, missing or damaged frames, stability and density issues, etc...'

**So how worrying is the notion that people working in restoration in years to come may not have any first-hand knowledge of film?**

'It's definitely a concern. The more knowledge you have of the original material you're working from, the better you're going to serve that material. If someone doesn't have a photochemical grounding in film history and technology, then the results of their work will inevitably suffer.

'You see this sort of things all the time on web forums, where issues such as film grain, image sharpness, and aspect ratio are endlessly debated. A lot of the time it's coming from a place where



## COMING ATTRACTIONS

Get ready for a deluge of cult classics on Blu-ray from Arrow this Summer...



**Spider Baby (June 17)**

Director-approved restoration

**Foxy Brown (June 24)**

Blu-ray world premiere

**The Car (July 15)**

Blu-ray world premiere

**Runaway Train (July 22)**

Blu-ray world premiere

**Dressed to Kill (July 29)**

UK Blu-ray premiere

**Deranged (August 12)**

Uncut Blu-ray world premiere

**Time Bandits (August 19)**

Director-approved restoration

**The Fall of the House of Usher (August 19)**

Blu-ray world premiere

**Squirm (September 16)**

Director-approved version

**The Last American Virgin (September 23)**

Blu-ray world premiere

**Lifeforce (September 30)**

Director-approved edition offering both versions for the first time

White's team used Deluxe Soho's Nucoda grading system to perfect *Time Bandits'* colour palette

someone might be privy to a little bit of information but he's using this to cast blanket judgments over absolutely everything.

'For the record, film grain is not the same from film to film nor is it from element to element. We have over 100 years of films to deal with, and the light sensitivity, the speed of the film and the grain is going to change like anything else.

'The best thing I can do when restoring a film is make that film look as close to what it looked like in theatres at the time that it was released. For me, that's always the goal.'

**So where do you stand on the subject of making alterations to films during restoration, such as painting out wires?**

'Well, I'm against alterations in general unless they were always part of the original film. There's a good example of this from 1939's *The Wizard of Oz*. When Warner Brothers produced a new restoration in 4K a few years ago you could suddenly see support wires that were never visible before.

'Now it goes without saying that when Victor Fleming shot the film, he knew that by the time you'd gone through several stages of photochemical printing the wires would be invisible. It's just a by-product of the fact that we can work directly from the negative materials in a lossless fashion these days. So in this instance I believe it's valid to go in and paint those wires out, as the filmmakers clearly never meant them to be seen.

'That said, we came across a funny example just a couple of days ago, when I was working with Terry Gilliam on the new *Time Bandits* restoration. There's a scene in the Sherwood Forest section, where if you look just to the right of the frame you can see the technician and his smoke machine contraption sitting there, clear as day.

'Where I draw the line is when a filmmaker or studio wants to use the restoration process to "improve" or "update" the materials in some way. I don't subscribe to the idea that a film "belongs" to any one filmmaker, studio or otherwise. Once a film's been released, then I consider it a part of film history, and my job is to serve that history as accurately and truthfully as possible.'

**It must have been a huge help to have Terry Gilliam directly involved in the restoration.**

'He's been terrific to work with. He's been very busy on his new film, because the guy never stops, but he was immensely supportive and incredibly helpful. It's always great to have a filmmaker involved in the process. But the truth is that when you're in the

**'If you like film then you have to like the look of film. Film is grain, that's what it's made of. We should celebrate that'**

business of film restoration, you're nearly always working on films by old dead guys. That's just the way it is. Which is why it's so important to be as well-researched as possible on whatever film you're working on.'

**Going back to the topic of altering films for Blu-ray, where do you stand on the 'DNR' debate?**

'DNR is an umbrella term that describes a number of different software programmes. If it's used with sensitivity and restraint, it can be a big help for getting rid of dirt, sparkle and minor debris. We occasionally use HD-DVNR for this, but we use this tool cautiously and sparingly, altering the settings from shot to shot and often frame by frame, to ensure that nothing we do results in the reduction or loss of original detail or film grain, or the creation of unwanted digital artefacts.

'Too often, poor restoration work is the result of an operator simply running the entire film through a very high DNR setting to remove as much dirt or damage as possible, which almost always results in a compromised image. The same goes for the practice of de-graining, re-graining or any form of digital "sharpening". You may remove the dirt, but the film no longer looks like film. If you like film then you have to like the look of film. Film is grain, that's what it's made of. We should celebrate that.'

**I doubt that Arrow can finance restorations to the same levels as Hollywood studios, yet you often deliver results that put the majors to shame.**

'Thanks! Arrow really pushed the boat out with *Zombie Flesh-Eaters* last year, and part of that was a way of them saying, "No more mediocre masters. We want to recreate the label. We want to put our focus on high-quality presentations of classic and cult cinema". In a way, they've worked hard to become something like the cult version of the Criterion Collection, and I think they're doing a great job.

**Absolutely, because it's not always been smooth sailing. There have been problems in the past. Just look at some of the Dario Argento Blu-rays...**

'Those were before my time at Arrow, but with a lot of those early masters – *Tenebrae* and a few others – a lot of those criticisms were valid. But people should understand that Arrow weren't personally







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A damaged frame from *Time Bandits* being repaired using one of Deluxe Soho's MTI workstations

responsible for those masters. They sub-licensed those titles from the rightsholders and it was either put them out with the masters they'd been supplied with or not release them at all. It's an unfortunate position that a lot of independent labels find themselves in.

'It's a shame, because a lot of those titles would look so good if they were properly restored. But take another famous Argento title that Arrow didn't do – *Suspiria* – man, that one needs help. It's a title that was restored a couple years ago to someone's own ideas about colour and grain management, etc. But honestly, I thought it looked horrible. It's one of the pinnacles of Argento's filmography, but it clearly needs to be done over again. So I would love the chance to do it if Arrow ever got the rights to it.'

**Arrow is also doing an excellent job of building relationships with major studios, such as MGM, and getting access to their film catalogues.**

'I think that the future of Blu-ray, and whatever life DVD has left, is really down to small companies like Arrow, Masters of Cinema, Olive, BFI and Criterion.

'You can't count on the majors to pay attention to anything but the same tent-pole titles these days. So it's up to these small labels to give the smaller – but equally deserving titles – the attention they deserve.

'I mean, it's great that we're getting amazing Blu-ray editions of *Casablanca*, *Singin' in the Rain* and *Lawrence of Arabia* at the moment. But what about less well known, but equally great films like *Out of the Past*, *The Gang's All Here* or *Madigan*?'

**Going back to *Zombie Flesh-Eaters*, your restoration was a real eye-opener that made me realise what a beautifully shot film it is.**

'That's great to hear, because [cinematographer] Sergio Salvati did a great job shooting that film under difficult circumstances. And [director] Lucio Fulci has an amazing eye and I think it's one of his greatest films. It was an honour and a pleasure to work on that film.

'We were very fortunate that the licensor gave us access to the original Techniscope negatives. According to their records, they hadn't been accessed since the film was produced in 1979...'

**There was a bit of discussion about that given the claims that *Blue Underground* made about its prior US Blu-ray release being based on 'a new 2K scan of the original... camera negative.'**

'Yeah, there was quite a bit of discussion! I don't know the full story, because I haven't spoken to Blue Underground, but the Italian rightsholder, who had owned the film from day one, claimed to have never heard of the label. So if Blue Underground ever got access to that element, all I can say is that they certainly didn't do it directly.

'We looked at Blue Underground's master throughout the process, because up until that point it was the best release of the film available. But we were struck with how overly saturated it appeared and how much image area seemed to be missing. The grain structure also appeared quite different. So I'm not sure what it was they were working from.

'*Zombie Flesh-Eaters* was shot 2-perf Techniscope, which was a low-budget alternative to Cinemascope popular throughout Europe in the 1960s and '70s because you'd only expose half the standard amount of film. After developing the negative, you'd then blow that up to 4-perf for all remaining stages in the printing chain. So, in a sense, everything you work with after the negative is a blow-up. Working from any element other than the negative means would mean an inferior image resolution, as well as significant cropping.'

**What shape was the negative in?**

'It had a lot of issues. There were frame jumps on literally every cut, thanks to the nature of how it was produced. There were a lot of dirt, scratches, and density issues. And there was some stuff we were only able to improve so far, such as the classic scene with the woman, the shark and the zombie.

'This section of the film was shot by a second unit with underwater cameras, and somewhere along the line – either in shooting or initial development – a yellow processing artefact resulted that has been there in the film ever since. It's been played down in previous video incarnations because of the loss of resolution, but in our version, when you're looking at everything captured straight from the negative, you can see the damage for what it is. Now, hopefully, you're too busy watching a naked woman, a shark and a zombie without getting distracted much by anything else!'

**Looking at another recent Arrow release, Mario Bava's *Black Sunday*, are there any specific challenges that come from working on a black-and-white film?**

'The thing to keep in mind is that, just like colour, black-and-white is not exactly the same from film to film. If I restore a film from 1920, I want it to look like 1920s black-and-white. The same goes for a film from 1960, like *Black Sunday*.

'So, when you're dealing with issues of greyscale and contrast it all comes down to what that film originally looked like and the age it was made in. I've restored older films where the palette is more like several shades of grey rather than extreme black and white. They didn't have the means to push contrast

Arrow's restoration of *Zombie Flesh-Eaters* was the first to go back to the original Techniscope negative





to same levels back then. The film stock just wasn't capable of delivering images in that way.'

**You recently worked on two more Bava titles, *Baron Blood* and *Black Sabbath*. With regards to the former, I understand that some of the restoration work had already been done by Kino-Lorber in the US. Can you elaborate on that?**

'Well, Arrow has plans to release everything, every single Bava film. I can't say how long it's going to take, and I can't attest to the quality of every master either. The thing with Bava is, he made so many films and some were made with sizeable budgets and

**'Hopefully you are too busy watching a naked girl, a shark and a zombie without getting distracted much by anything else'**

some very small. And as a consequence, some of his films have been well looked after, while others have not. So the masters reflect this.

'But regardless of the origins of any particular film, we'll be doing our best to release it in the highest quality and most definitive presentation possible.

'In the case of *Baron Blood*, Kino-Lorber digitally transferred the film from a CRI [color reversal internegative] 35mm element. I'm not sure why, but it's entirely possible that the negative is in horrible shape and working from the internegative may have been the best possibility available to them.

'Upon examining the master, we decided to go the extra mile and clean up the image a bit further, without disturbing or manipulating grain of detail. The improvements we made were fairly minor, but again it's about giving a film the best possible presentation – which extends to including all three versions of the film on the Blu-ray.'

**Do you have the option of going back to the source material if need be?**

'Whenever we're presented with a master that we feel is seriously compromised, we'll attempt to go back to the original film materials and do the restoration ourselves. This hasn't yet happened with Bava though.'

***Baron Blood's* opening titles look particularly rough, even considering the problems you typically encounter with opticals of that type.**

'Yeah, there's a lot of frozen dirt in *Baron Blood's* titles. When you're making the optical, you're talking about putting one layer of film on top of another, creating a new second-generation element from these alternate sources. So if anything is trapped in between, like dirt, it stays there. With *Baron Blood*, it looks almost like somebody was eating their lunch over their work and the crumbs just got stuck in the film [laughs]. All I can say is, that it's always looked that way in the finished picture.'

**From what I've heard, *Black Sabbath* turned out to be a particularly challenging restoration.**

'Actually, that's putting it mildly! *Black Sabbath* underwent a photochemical restoration in Italy resulting in a new preservation element, which was used for the source of the HD master we received.

'Unfortunately it became clear after viewing just the first few minutes that the film still needed urgent help. There were still heavy dirt, light scratches and stability issues on show throughout. The audio contained pops, crackles and fuzz from start to finish. Two of the stories in the film even appeared in the wrong order! Most troubling, however, was the colour, which was flat, milky and dull.

'Now as any fan knows, Mario Bava used colour in a very distinct way, with bold reds, lurid purples and deep, rich saturation throughout, giving his films a striking, dream-like look, of which *Black Sabbath* is one of the most iconic examples. So, basically, we had to get the film back to its proper definitive >



Arrow's *Black Sabbath* BD includes restorations of both the uncut Italian and re-edited American prints

## Baron Blood

Arrow Video → Region B BD/R2 DVD  
£23 Approx



It may not be Mario Bava's most inspired film (to put it mildly), but that hasn't stopped Arrow from pulling out all the stops with this release. The Blu-ray offers a choice of three versions

of the film – the original Italian cut, the export version of the same and the seven-minute shorter US edit – all handsomely restored and presented as AVC 1.74:1 1080p encodes. The LPCM 2.0 mono soundtracks are equally impressive. Satisfying extras include a commentary, trailers, a *Bava at Work* photo gallery and an interview with fellow Italian filmmaker Rugero Deodato.

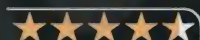


## Black Sabbath

Arrow Video → Region B BD/R2 DVD  
£23 Approx



Considering the sizeable challenges the restoration team faced with Mario Bava's legendary horror anthology, this Blu-ray release of *Black Sabbath* is nothing short of miraculous. Both the Italian and US edits of the film boast wonderfully rich colour palettes and pleasingly natural levels of film grain throughout. The only extras on the HD platter are a chat-track and a featurette examining the differences between the two versions of the film. However, additional interviews and trailers can be found on the DVDs included in the set.







The Titanic sequence exhibited some of the worst damage White's team faced while restoring *Time Bandits*

presentation. With the assistance of Bava expert Tim Lucas on the finer points of colour, I feel satisfied that we've achieved that.

'That said, it shows how important it is to thoroughly examine the materials you're presented with on any project. And it's to Arrow's credit that they went that extra mile to make *Black Sabbath* the best and most definitive Blu-ray it could be.'

**I presume that this varied nature of the source material you deal with means that restoration budgets are assigned on a case-by-case nature.**

'Absolutely. A film like *Zombie Flesh-Eaters*, with the format it was shot in and the amount of damage we were dealing with, is going to cost a bit more than something not suffering from these same issues.

'We're currently working on another restoration for the 1987 Donald Cammell film *White of the Eye*. He was an amazing talent with a truly unique vision and it's a really interesting film. Anyway, the amount of clean-up there has been much less intensive, but it's still a full restoration made straight from the original negative. And I have to say, it's looking pretty great – probably a lot better than people ever thought possible, considering its cult status. I'm pretty proud of that one.

'*Time Bandits* is getting the banner treatment. It's being fully restored and delivered in 2K, which will act as the DCP [Digital Cinema Package] for the theatrical release and the HD master that serves as the basis for the Blu-ray release.

'One thing that I find really impressive, though, is the lengths that Arrow goes to in order to present these films in all their different incarnations. So that means going for alternate cuts, alternate takes, international versions, you name it. The Bava releases are a case in point. I can't see anyone else going to such lengths to present these titles as comprehensively as Arrow has.'

**Can you tell us anything else about the future projects we can look forward to that you're working on for Arrow?**

'Well, there's a lot of Brian De Palma stuff coming up, including the legendary *Dressed to Kill*. Some of it I've had a hand in, including *Sisters* (1973), one of my

personal favourites of his. The Mario Bava films I've already mentioned. There are going to be more restorations for key films in the HandMade Films library. And there's a very exciting project underway to do with an important figure in Eastern European film – but I'm afraid I can't say any more about that one for now!'

**To wrap things up, is there one dream restoration project you'd love to work on?**

'Like a lot of people, the film that first got me into thinking about film restoration as a profession was Orson Welles' *The Magnificent Ambersons*.

'It's arguably one of the greatest American films ever made, yet it was cut from its 135-minute length down to a measly 88-minutes. And to this day nobody knows what happened to the missing footage. The detective story angle really got me

**'I'd love to do a proper restoration of *Night of the Living Dead*. It's already been released a couple of times, but none are right'**

hooked, so it goes without saying that I'd love to be involved in any full restoration of that film.

'What else? There are so many films that I'd love to restore simply because I adore the films. *Fat City*, *Seconds*, *Pitfall*, *The Lusty Men*, *Imitation of Life*, *Les bonnes femmes* (*The Good Time Girls*), *Sandra*, *Detour*... So many wonderful films!

'I'd also love to do a proper restoration of *Night of the Living Dead*. It's already been released on Blu-ray a couple of times by the likes of Network and StudioCanal (*née* Optimum Releasing), but none of them are right. It's been out of copyright for years, which is part of the problem.

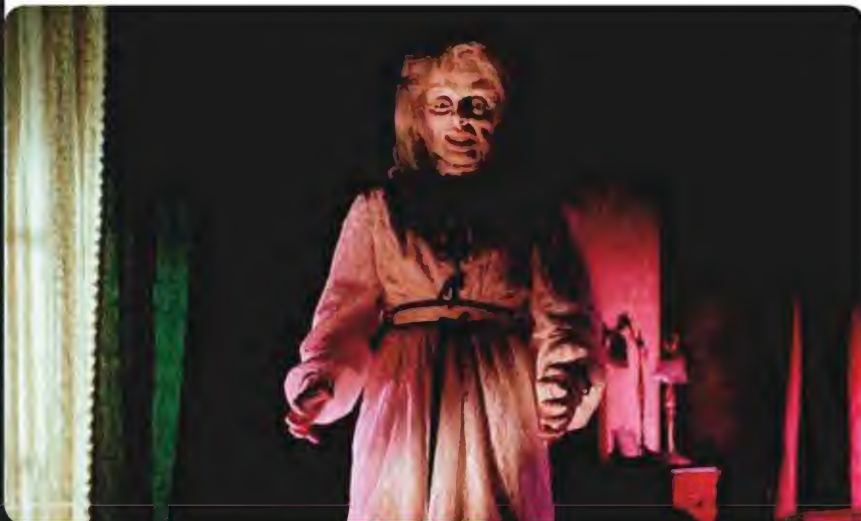
However, the original materials are still with [director] George Romero and his producer. So, hopefully, one day we can see a proper release done at the level it deserves. Because that film – the film that arguably ushered in the new wave of modern horror more than any other – should look and sound a lot better than it currently does.'

**For me it would have to be *The Keep*, which I also think would be a great fit for Arrow.**

'The Michael Mann film? Great choice! I'd love to work on that one. I've only ever seen it once and it was on crappy VHS, but it's definitely a diamond in his catalogue that needs a proper reevaluation. And of course you'd have to get Mann involved to do it right. But you know, it actually would make a fantastic Arrow title.' ■

James White's restoration of *Time Bandits* is released in cinemas this Summer and on Blu-ray and DVD on August 19. For further information on all forthcoming Arrow titles, visit [www.arrowfilms.co.uk](http://www.arrowfilms.co.uk), [Facebook.com/ArrowVideo](https://www.facebook.com/ArrowVideo) and [Twitter.com/ArrowFilmsVideo](https://twitter.com/ArrowFilmsVideo)

Bava expert Tim Lucas was called in to ensure that *Black Sabbath*'s colour grading was spot-on







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# Flatpack home theatre

**Mark Craven** marvels at a slick smarthome built in Germany and then assembled in the UK

## HIT 'EM UP

We check out Sly Stallone in *Bullet to the Head*, p103



## CINEMA ROOM CHECKLIST

**JVC:** X70 D-ILA projector

### SCREEN RESEARCH:

Acoustically transparent 16:9 screen

### BOWERS & WILKINS:

3 x CWM 7.4s; 4 x DS6s; 2 x CT SW10s; 2 x SA1000 custom subwoofer amps

**ROTEL:** RSX-1562 AVR

**RTI:** T1-B universal system controller

**OPPO:** BDP-93EU

**SKY:** Sky+HD



**THIS CINEMA ROOM** is part of a wider, whole-house installation conducted by Surrey/Sussex-based company Audio7. At first glance it doesn't look unusual, until you discover that the house itself was designed and built in Germany by bespoke home builder Baufrizt and then assembled in mere days once it arrived in the UK. Oh, and that Wi-Fi isn't featured and the entire property aims to stop external RF entering by creating essentially what is a Faraday cage, with foil-backed and earthed boards...

The owner approached Audio7 during the planning stage to make sure that what he wanted was incorporated in the Baufrizt design. The brief included high-quality distributed audio and video throughout the house from a single central location, and a cinema room in the basement. The owner requested that all zones be controlled through a single point and easy to use, and that the control system would handle lighting and an intercom. Audio7 was even tasked with installing a 'business-grade data network'.

#### Aesthetically pleasing

Alex Josling, a director at Audio7, reveals that as well as performance considerations, 'the

aesthetics of the system was an important factor'. The TV screens throughout the house (from Samsung and Panasonic) had to suit in both size and look, and discreet in-ceiling or in-wall loudspeakers were required everywhere but the basement movie den. Other considerations included isolating the loudspeakers to reduce unwanted sound transmissions between rooms, and careful

**'The brief included high-quality audio and video distributed throughout the house from a central location'**

placement of network connection points to allow for future additions, and cater for where the owner might want to use his laptop.

A storage room in the basement of the house accommodates freestanding Middle Atlantic AV racks. Source kit, including Sky+HD units and an Oppo Blu-ray player, is installed here along side seven Linn DS network music players, amplification and system control. ➤



The basement cinema runs a 7.2-channel Bowers & Wilkins speaker array and JVC X70 projector

This luxury house incorporates a potent multiroom Linn audio system and a 'business-grade' data network





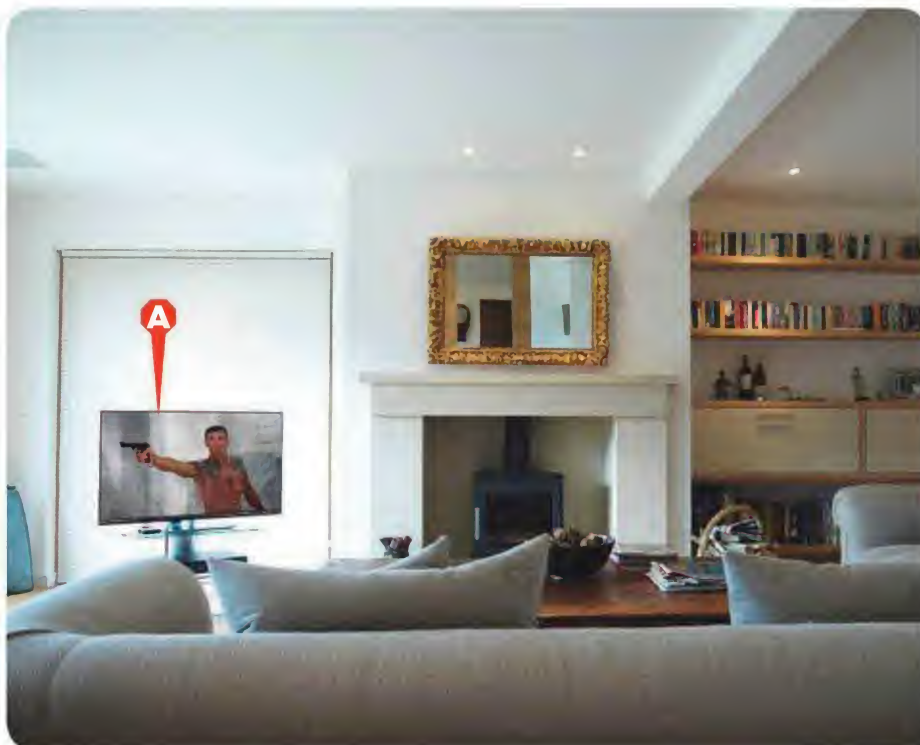
The modern-looking cinema features a JVC D-ILA projector and Screen Research 16:9 ratio screen (chosen because the owner watches a lot of sports and TV). The sound system is a traditional seven-channel design, with the front three in-wall speakers placed behind the acoustically transparent screen – doing this required the construction of a slim baffle to sit in front of the basement's concrete walls.

Control here is handled by an RTI RF-based controller, while the rest of the house is dotted with Control4 in-wall touchscreens.

## High-quality audio

As you'd expect, the owner loves the way the system works and the quality of the music reproduction across the Linn multiroom setup. Says Audio7's Josling: 'It seems to be becoming less important but this system uses high-quality source and amplification coupled with well-thought out speaker placement – and the results are spectacular.'

Meanwhile the basement Blu-ray bunker is being used more than originally thought, with the owner and family regularly getting together for some bigscreen, surround sound action. And who can blame them? ■



## INSTALL INFO

### A LOUNGE LIZARD

A Panasonic GT50 provides flatscreen entertainment in the lounge

### B SEVENTH HEAVEN

This bank of seven Linn DS digital music streamers feeds audio to various zones throughout the property

### C OOH, THERE'S AN OPPO

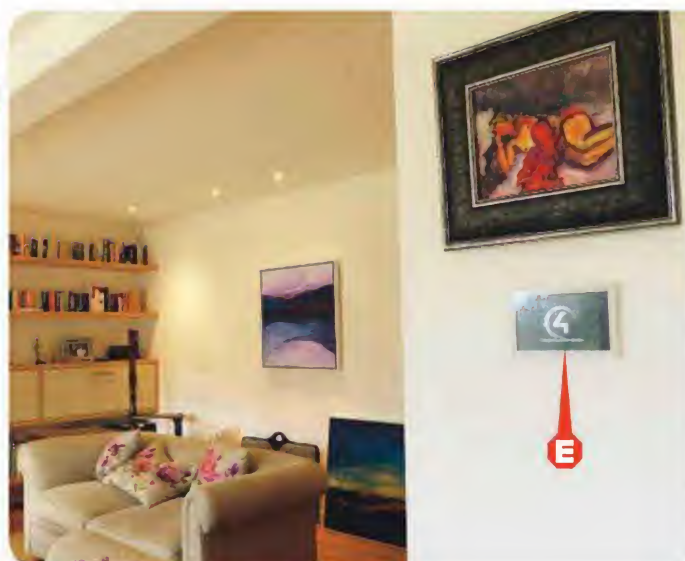
Blu-rays are handled by a multiregion Oppo BDP-93EU player

### D AUDIO HUB

A Rotel RSX-1562 AV receiver marshalls the surround sound setup in the dedicated cinema room, although the Bowers & Wilkins passive subs are fed by their own dedicated amps

### E TOUCH OF LUXURY

In-wall touchscreens from custom install specialist Control4 provide slick operation of the home's lighting, audio and intercomms







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# REVIEWS

→ **HARDWARE HIGHLIGHTS** SONY 40in W9 Triluminos LED TV KEF New-look 5.1 E Series 'Eggs' SAMSUNG Flagship 7.1-channel Smart home cinema system BOWERS & WILKINS Second-generation Panorama soundbar SVS 12in affordable subwoofer ONKYO Debut headphones BANG & OLUFSEN Designer 40in TV ROUNDUP A trio of budget Blu-ray players do battle AND MORE!

## Monster screen!

Panasonic's TX-P65VT65, the brand's biggest plasma, proves that size matters. See p56



### HCC RATINGS KEY...

Outstanding	★★★★★
Above average	★★★★☆
Acceptable	★★★☆☆
Disappointing	★★☆☆☆
Dire	★☆☆☆☆



**WILD  
FRONTIER**

*Django Unchained*  
saddles up and  
rides into action  
on BD, p98



Sony's new-look bezel includes a hint of greeny-blue to its outer edge





# A quantum leap in colour

Forget about gesture control and speech recognition, Sony's latest flatscreen flagship is all about image quality. **Steve May** widens his gamut

**WHEN THE LIGHT** falls just right, Sony's W9 LED TV glints emerald, like something precious – which, indeed, it is. This 40in thinscreen follows hot on the heels of one of last year's finest LCD displays, the HW8, and seeks to maintain Sony's forward momentum with a modicum of extra functionality and a splash more AV refinement.

Giving the KDL-40W905A its distinctive 'Sense of Quartz' look is the aluminium bezel, which has a hairline finish and diamond-cut edging. To get the green tinge, we're told the aluminium is given a chemical bath and anodised. This design trope is echoed across the rest of the Sony TV line, and even extends to its Blu-ray and home theatre packages, but this is the only product with a true diamond cut. It immediately looks more opulent and impressive than its step-down siblings. Centred at the bottom of the bezel is the so-called Intelligent Core, which pulses with light when commands are received and changes hue depending on the content source. Setting the whole thing off is a loop pedestal, chrome-plated for extra bling.

On a more practical note, the set offers a decent collection of inputs: four HDMI, three USBs, Scart, component, optical digital audio output and Ethernet. Wi-Fi is resident. Tuning options comprise Freeview HD and DVB-S2.

Reflecting the growing sophistication of the set's user interface, two remotes are provided. A standard IR zapper, plus simplified Bluetooth finger remote. The latter is not just a sop to technophobes, it's also got an NFC (Near Field Communications) chip which can be paired with any suitably equipped smartphone.

While the TV itself glints like the City of Oz, the real magic happens behind the glass. Sony's image boffins (who live over the Rainbow Bridge, in Shinagawa, funnily enough) have reworked their picture processing tech to mesmerising effect. The X-Reality Pro engine has an updated database of algorithms, yet despite the increased silicon brawn, the results never look overly processed.

Indeed, it's no hyperbole to suggest that picture quality borders on magnificent. Black level performance is excellent and detail reproduction outstanding. Sony, more than any other brand, has really nailed LCD motion clarity with its Motionflow processing wizardry. The potion offered here is the full-strength XR 800Hz iteration and for the most part it's astonishingly effective.

Without Motionflow, the panel's moving resolution is capped at around 700 lines. Motionflow Smooth and Standard settings improve significantly on this, with Clear, Clear Plus and Impulse delivering a full 1080 lines (measured at 6.5ppf) without inducing unwanted motion artefacts, although they increasingly reduce overall brightness. There's also a True Cinema mode which restores luminosity, but is comparable simply to switching Motionflow off.

## Triluminos pays dividends

The set's colour performance is similarly outstanding, and has been optimised for any X.V.Color (aka xvYCC) extended gamut source. Sony's new Triluminos LED edge lighting, which employs quantum dot nanocrystal technology, delivers lusciously rich reds and greens. Widescreen images pop while skintones have more subtle nuances. For BD content, we hooked the TV up to Sony's inexpensive new BDP-S3100 BD player. The results were impressive. Even a sombre palette like *Zero Dark Thirty* finds additional vibrancy on this wide gamut display. We can't wait to see how the screen performs with Sony's upcoming line of X.V.Color Mastered in 4K Blu-rays.

Fine detail and texture also get a helping hand with Sony's Reality Creation processor. This produces slightly crisper delineation, yet never gives the impression of overt edge enhancement. Details sing a little louder, textures appear more tangible. Seal Team 6 are just a tad more believable here than on rival sets, their gritty ordnance

## AV INFO

**PRODUCT:**  
40in Active 3D  
Smart LED TV

**POSITION:** Sony's  
top-of-the line Full  
HD LED TV offering  
– 46in and 55in  
models are available

**PEERS:**  
Panasonic  
TX-L42DT65,  
Samsung  
UE40F8000

Sony's additional  
Bluetooth remote is  
NFC-enabled







AV inputs, including the quartet of HDMI jacks, are scattered around the back of the TV

looking almost three-dimensional despite low-level lighting.

Backlight uniformity is good. The screen employs a Dynamic Edge LED system with broadly effective local dimming. There's none of the splishiness seen on lesser sets. In many ways, this is an LED LCD TV that could actually win the hearts of die-hard plasma lovers. Off-angle viewing is okay, but not great.

#### XMB R.I.P

Usability is also good. Sony has revamped its interface for 2013, replacing the familiar XrossMediaBar with a new, graphically rich, vertical menu. It's whizzy and modern, although the brand really needs to sense-check the user experience. The very first option, dubbed Featured, comprises nothing but promotional guff for Sony services. Hardly anything you'll need on a regular basis, and certainly not deserving of its pre-eminent position. Other menu'd items include: TV, Applications (IPTV services and games), Connected Devices and Settings.

Online content has long been a Sony strength, and here a wide selection of streaming services continues to be offered, but disappointingly there have been no additions since last year. Catch-up remains restricted to

BBC iPlayer and Demand 5, with LoveFilm, Netflix, Qello, YuppTV, Crackle, YouTube, Blinkx, DailyMotion and more making up the numbers. The Sony Entertainment TV channel itself remains devoid of life and meaningful content (perhaps they've forgotten about it?).

Multimedia file support is the best I've seen yet from the brand, both from USB and across a network; all popular codecs and containers, even MKV, are supported.

#### Getting Active

Unlike its sister models, the W9 features Active Shutter rather than Passive 3D. Stereophonic images are sharp and largely undimmed. While the supplied glasses are a tad uncomfortable, particularly over prescription spectacles, their clarity and dimensionality is pronounced.

**'In many ways, Sony's W9 is an LED TV that could actually win the hearts of die-hard plasma lovers'**

Inevitably, there is some crosstalk double-imaging, though, and the BD menu for *Tangled* remains too much for the system to cope with.

One final change this year takes place outside the box, specifically smartphone and tablet integration. Thanks to the miracles of MiraCast, you can now wirelessly reflect exactly what's on your mobile device on the larger screen. To make hookup devilishly simple, the set is NFC-enabled. Just touch the simplified remote with an NFC device (the set is optimised for Sony's Xperia Z smartphone), and you're paired. But even without the Sony ecosystem, it's simple enough to pair devices. Sony also offers TV SideView, a neat EPG extension app which allows you to browse up-coming shows without disturbing those watching the bigscreen.

The W9 makes a pretty decent noise for a slimscreen. A long-duct speaker system offers meaningful mid-range, while a clever angled driver arrangement bounces soundwaves off a little lip on the underside of the screen. The result is a pleasingly coherent soundstage with defined stereo separation.

Overall, the KDL-40W905A is highly recommended. It may come up short when compared to rivals touting voice and gesture control, not to mention twin-tuner convenience, but ultimately I don't give a monkey's. The set more than compensates with its classic design aesthetics and unbeatable picture performance. Movies, sport and games – this set nails them all. Throw in a decent online content portal and good mobile integration and you have a high-end proposition that's difficult to resist ■

#### ON THE MENU



→ Sony has changed tack with its user interface this year, offering a more graphically-rich and vertically-arranged design that's a clear improvement. Delve into the settings menu to experiment with its plethora of picture presets, Motionflow settings and calibration tools

#### SPECIFICATIONS

**3D:** Yes. Active Shutter (two pairs of glasses included)

**FULL HD:** Yes. 1,920 x 1,080

**TUNER:** Freeview HD tuner, DVB-S2 satellite tuner

**CONNECTIONS:** 4 x HDMI; 3 x USB; Ethernet; component; composite; Scart; optical digital audio; analogue audio; headphone; CI slot

**SOUND:** 20W (2 x 10W)

**BRIGHTNESS (CLAIMED):** N/A

**CONTRAST RATIO (CLAIMED):** 'Over 1 million'

**DIMENSIONS (OFF STAND):** 917(w) x 541(h)

x 61(d)mm

**WEIGHT (OFF STAND):** 12.3kg

**FEATURES:** Built-in Wi-Fi; Motionflow XR 800Hz; X-Reality pro picture engine with Reality Creation; USB hard drive recording, DLNA/USB media playback; NFC compatible; mobile device Smart Mirroring; Sony Entertainment Network Smart portal; web browser; Triluminos Display

#### HCC VERDICT



#### Sony KDL-40W905A

→ £1,400 Approx → [www.sony.co.uk](http://www.sony.co.uk)

→ Tel: 0844 8466 555

**HIGHS:** Diamond cut design; outstanding image fidelity; mobile device integration; multimedia file support; audio clarity

**LOWS:** Single-tuner; self-aggrandizing user interface; half-hearted catch-up service

**Performance** ★★★★★

**Design** ★★★★★

**Features** ★★★★★

**Overall** ★★★★★



# Foxy Brown



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# KEF continues its eggzact sonic science

**Adam Rayner** meets the latest baby 'egg' speaker from KEF – and finds it offers a performance and design that's rather delicious

**ONE GLORIOUS EASTER** some years back, I got a knock at the door and a parcel was delivered. It was a cool bit of packaging, with the shattered remains of what had once been a chocolate Easter egg, in the shape of KEF's latest 'egg' speaker, inside. As a PR stunt,

it had failed utterly. Yet I still ate the chocolate, and my interest was tickled enough to make sure I tracked the KEF system down at the next show I went to.

Back then, it was like someone had been cheeky at KEF, nicked some high-quality

transducers and put them in something dinky just to see if they worked (similar to the willfully naughty engineers who made the Golf GTi). And, unlike the PR stunt, it wasn't a failure.

Now, KEF is back with these new 'eggs' (and I duly received an intact chocolate treat





– I will point out that while me food critic brother may be bribeable with sugary foodstuffs, I am not).

### Eggs relaid

Like the humble Golf GTi – another product that has been raved about down the years and has had a slew of extra engineering applied – the KEF egg speaker has got bigger and heavier. These E305 and E305c enclosures are not quite as dinky as once they were, being now a weighty 1.5-litre ovoid cabinet. They're mounted on a smart leg and base assembly, tightened up solidly via an Allen key. Additional floorstands, should you not want to mount these on a shelf, are available for £150 a pair.

The system comes in a matt white or black finish, all assembled in a single carton. Buyers get four E305 eggs in the top layer, then, like a box of chocolates (it's on the brain for some reason) you get another layer with the E305c centre enclosure and the E-2 subwoofer underneath.

In my house, I would probably install the black version. There's nothing wrong with the

white finish, but that lovely camel hump subwoofer is just bound to get a rubbery shoe-mark.

The woofer has only one control surface and that is the underside. Alongside the 8in cone, which is a long-travel design, you find a figure-eight double-insulated mains socket, a single phono input socket, a main on/off switch and another smaller one you can use to set for manual or auto-sensing-on/off. There is a simple 0-180 degrees phase flip switch and, lastly, an EQ bass boost switch with three positions. Plus or minus 2dB and one called '0dB' in the middle.

Interestingly, KEF's designers have made the product to work with a nice little perceived equalisation 'hump' at 50Hz in most rooms. This is where a bass boost is often provided on many products meant for mainstream, rather than expert/audiophile, use. So, oddly, the '0dB' setting offers a little 'plus' EQ, and KEF calls the flat, un-EQ'd response, '-2dB' on the switch. Subsequently, the '+2dB' setting provides a pretty big 4dB lift and hump around 50Hz.

If all the above is a tad baffling, worry not. Start at '-2dB' and experiment with the other positions later. I, of course, tried it at max initially, and quickly found I needed it flat (-2dB) as it just sounded smoother that way.

### Dripping with technology

The satellites themselves have some really deep smarts. The technology that the R Series floorstanders borrowed from the Reference series has filtered down even further, and the E305 eggs now have the most astonishing drivers in them, with the tangerine segment-shaped waveguide at the front.

A very highly-developed magnet system fills a lot of the space within and gives the midband output some serious grip. Likewise, the vented tweeters and the whole Uni-Q assembly's output, flowing out over the Z-Flex suspension to offer a smooth, horn-esque loading to the whole sound, are a slice of real acoustic engineering. It's a shame that you can't remove the grilles to get a good look. The cabinet design befits the reasonably high (for a sub/sat package) £900 asking

#### AV INFO

**PRODUCT:**  
Mid-range 5.1  
speaker system

**POSITION:**  
The most high-end  
of KEF's sub/sat  
packages

**PEERS:**  
B&W MT-50;  
Quad L-ITE 2;  
Dali Fazon Sat5.1-1



Each satellite uses  
KEF's proprietary  
Uni-Q driver array





Controls for the subwoofer are on its bottom, alongside the 8in long-throw driver

price, with internal ribbing and damping employed to strive for an aural accuracy free from unwanted resonances.

The enclosures are utterly easy to set up. Plug your speakers wires into their squeeze posts and a phono in the subwoofer and you're ready – no volume, no crossover to set. And if you want to try a few different angles and speaker positions (and the manual is good here) you'll appreciate their portability.

I began with some music material, and immediately the high-quality tweeters and the classic KEF detail and placement was there. I ended up with the rears a tiny bit boosted for my taste and found the overall coherency superb and the high-frequency handling just fabulous. The -6dB figures for the upper cutoff of the tweeters is a mad

**'The impact and power the E Series' drivers can muster for high frequencies is amazing'**

45kHz, with 33kHz at the -3dB figure that the rigorous tend to prefer. This equates to tinkly, engaging highs in the audible band – strings are given edges, cymbals have presence.

I turned to a highly-crafted Blu-ray soundtrack, Disney Pixar's *Brave*. Entirely recorded off-set (obviously), and with wonderful voice performances from the likes of Billy Connolly and Robbie Coltrane, it's become a personal favourite.

At the film's beginning, we follow the fiery princess as she goes for a wild ride through the forest, practising her archery skills. There's

a brilliant scenario of whizzing arrows, big hoof beats of the heavy horse and rousing Scots song with layers of vocals. It is intensely complex and could get congested, yet the E305 system was equal to the challenge. There was, of course, a limit to the sheer scale and weight of that heavy horse, but to achieve that you will need to pay more, and the placement and image creation of Pixar's soundscape was ridiculously impressive for speakers this small.

#### Box clever

The seamless voice-matching that five identical boxes can do is the best definition of synergy I know, and it's in abundance here. The impact and power these drivers can muster for high frequencies is amazing.

A bear attack early on is genuinely scary. Later, a witch's crow character gets a lot of stick – beaten with a broom and worse – before being issued with a welding mask that gets shut with a clang. With this array, you believe all this, as the range and skill of KEF's modern Uni-Q driver is just bonkers.

The E series is therefore an easy-to-recommend product. It's pretty, and wall-mountable if you wish, so will suit the fashion-conscious. The sub-£1,000 ticket, while hardly 'budget', will ensure a broad appeal. And how it performs, with great coherency and a woofer that's way more sophisticated than it might look on the outside, makes it a perfect match for movie fans.

There's a lot of competition in this market, but you should definitely add these to your audition list. Not as potent as the brand's R Series, but remarkable all the same ■

#### SPECIFICATIONS

##### KEF E SERIES E301/E301C

**DRIVE UNITS:** 1 x 4.25in aluminium coned midbass driver with Z-Flex suspension; 1 x 0.75in vented aluminium dome tweeter with proprietary 'tangerine' waveguide

**ENCLOSURE:** Ported

**FREQUENCY RESPONSE:** 90Hz-33kHz (+/-3dB)

**SENSITIVITY:** 86dB

**POWER HANDLING:** 100W

**DIMENSIONS (E301):** 136(w) x 260(h) x 159(d)mm

**DIMENSIONS (E301C):** 220(w) x 157(h) x 155(d)mm

**WEIGHT:** 2.4kg

##### KEF E-2 SUBWOOFER

**DRIVE UNIT:** 1 x 8in driver with long-throw cone suspension

**ENCLOSURE:** Sealed, downward-firing

**FREQUENCY RESPONSE:** 33Hz-280Hz

**ON BOARD POWER:** 250W RMS, Class D

**REMOTE CONTROL:** No

**DIMENSIONS:** 430(w) x 320(h) x 270(d)mm

**WEIGHT:** 7.25kg

**CONNECTIONS:** Single LFE input

#### HCC VERDICT



##### KEF E Series E305 system

→ £900 Approx → [www.kef.com](http://www.kef.com)

→ Tel: 01622 672 261

**HIGHS:** Lovely accurate soundstage with delicious detail and placement; excellent dynamics; great design

**LOWS:** A line-thru on the subwoofer and an option to buy extra ones would make it even better

**Performance** ★★★★★

**Design** ★★★★★

**Features** ★★★★★

**Overall** ★★★★★





# invisible loudspeakers

Amina's invisible speaker technology was utilized to generate highly clarity, room filling sound in this truly exceptional integrated and visually stunning solution. Each multi-million pound apartment, situated in the heart of Mayfair in London, has five Amina Invisible Loudspeakers installed providing a hidden 5.1 surround sound system for the main living area.

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# Samsung expands its sound

This all-in-one array boasts exclusive DTS Neo: Fusion post-processing to craft a more immersive soundfield. **Mark Craven** reports

**ALL-IN-ONE SYSTEMS ARE** called all-in-one systems because you get everything in one box. Having lugged Samsung's new HT-F9750W package around, I'd be happy if they split its contents across a pair of boxes and called it an all-in-two. There's a lot here.

On paper, the system combines a quartet of speakers, a centre channel, a subwoofer and disc-player/amplifier unit, but in reality you get a mass of parts to assemble – this is not a plug 'n' play proposition. Each of the tallboy speakers is made from three pieces, and you'll need to thread the attached speaker wire through the heavy base plate before you can screw it on (don't be tempted to ignore the screws – the speakers will wobble all over the place without them). Then you need to lace the cabinets up to the main unit.

The rear speakers use a supplied wireless receiver. This needs to be plugged into a power socket, and you still have to run speaker wire, but it avoids cable going across your living room floor. The subwoofer is not wireless – that tech is reserved by Samsung for the active subs it partners with its soundbars.

The entire system is lovely to look at, with the silver finish making a fetching bedfellow for Samsung's own high-end LED TVs (although it's not quite the right shade to match the darker PS64F8500 plasma). The subwoofer isn't too offensive if you can't tuck it out of sight and the main unit, with its glowing valves and touch-sensitive control lights, is über-cool.

Connectivity is good. Twin HDMI inputs for external sources are joined by an ARC-compliant HDMI output, optical and analogue audio inputs and an Ethernet port. Around the front, behind a flap, is a USB input.

The HT-F9750W claims a couple of key new features over previous Samsung systems, both relating to its internal electronics. Firstly, while it

## AV INFO

**PRODUCT:** Premium all-in-one system with Smart and 3D talents

**POSITION:** Top of Samsung's current system range

**PEERS:** Panasonic SC-BTT880; LG BH9520TW

Samsung's flagship system uses a quartet of tallboy speakers







retains the vacuum tube amp technology first introduced to the brand's audio products last year, this is married to a new GaN (Gallium Nitride) digital amp, which claims improved efficiency and reduced distortion.

Secondly, the HT-F9750W features DTS Neo: Fusion processing, a collaboration between Samsung and DTS which, according to the Korean brand, is 'a combination of our 3D audio processing, along with DTS Neo:X post processing.' You'd assume, therefore, that it relates to the separately-powered swivel-mounted additional drivers near the top of the front left and right cabinets. However, after my audition I'll admit I'm not entirely sure what it's supposed to do. More on that later...

A word or two about usability. I've grumbled about initial installation but once everything is wired up this is a great system to drive. The user interface is both nice to look at and easy

**'The system is lovely to look at – the glowing valves and touch-sensitive controls are über cool'**

to navigate – you'll find yourself whizzing from setup menus to Smart features and your own home network with little head-scratching.

Those Smart features include a web browser (a bit clunky), an app portal including BBC iPlayer, 4OD, Netflix, LoveFilm, Blinkbox and BFI Player (but not Demand 5 or ITV Player yet, despite being present on Samsung's TV range), media playback from USB and networked devices, and screen mirroring of AllShare Cast-compatible devices. Wi-Fi is built in.

It's also important to note that this is, of course, a fully-fledged 3D Blu-ray player. Video playback is assured.

Setting up the speakers is aided by an auto-calibration system that uses bursts of irritating jangly music to measure distances and set levels. Once complete, it told me that my surround right speaker was fully 26ft from my listening position, which it plainly isn't, and then *reduced* the output by -2dB. I expect this was caused by room reflections; thankfully you can make manual adjustments.

#### Sonic boom

Samsung's package sounds rather fabulous for what is essentially a convenience-first system, bringing a warm, enveloping and big sound to your BD collection. In the world of the all-in-one, it's a clear cut above the norm.

It's greatest strength is in the mid and low frequencies – there's a full-bodied nature to its presentation, a benefit from the multiple drivers in each tallbox, that works well with







movie scores. The blues-infused soundtrack of *Bullet To The Head* comes across rich and fluid. Even the smaller centre channel, which is out of kilter size-wise with the rest of the array, delivers dialogue with a decent heft. However, I had to override the auto EQ setting of -4dB, as it was too quiet for my taste, and I still think the cabinet could be bigger – the drivers here are scaled-down versions of those in the surround speakers.

The twin-driver subwoofer is no slouch either, offering deep, voluminous throbs and hard-hitting thumps when required. It's rated down to 20Hz (-3dB), and although I take that with a pinch of salt, it does go nice and low. What's more, it integrates very well with the rest of the Samsung array tonally, although the upper registers of the low-end spectrum feel a bit under-served, and in a direct comparison with my £350 Monitor Audio MASS sub, it lacked tightness.

Another great trait of the HT-F9750W is its ability to go loud. During a run-through of Guns n' Roses' *Chinese Democracy* (CD) I let rip on the volume and was left cheered by the result. As the output grew, the sound swelled and the subwoofer became more authoritative. It was a potent display, with only the merest hint of high frequencies becoming splashy. It reflects well on Samsung's new amp technology.

And what of DTS Neo: Fusion? Well, this processing mode comes in three flavours – High, Low or Off. When it's not selected, the top-mounted drivers remain dormant, so stick to this for pure 5.1. Switch it on and they kick

#### Samsung employs vacuum tube amp technology to improve its system's audio performance

into action, lifting the soundfield and adding presence to the front soundstage. However, DTS Neo: Fusion also appears to increase the output of the rear channels, and this is where my head begins to wobble. Put it into use with a two-channel source and the surrounds come into play, so with a 5.1 mix, what information is actually sprouting from the rears is unclear...

Regardless, the effect is very much like dragging the soundstage closer to your listening position, so that you are, essentially, surrounded by sonic delights. This is what Samsung has set out to achieve, and it's highly effective, but traditionalists might not approve. I'll put my hand up and say I quite enjoyed it – even though it makes films sound more diffuse – and for two-channel music it's a hoot.

#### Accomplished all-rounder

Samsung's premium home theatre package totes a premium price tag and, in some ways, offers a premium performance. Its speakers have an effortless quality, creating an easy-on-the-ear aural experience with plenty of bottom-end and a nice sense of scale. While the higher frequencies could be sweeter and the woofer lacks a bit of poise, it's very accomplished all-round. Marry this to the gorgeous looks and bountiful features and it's an ideal partner for one of the brand's top-flight screens. Buyers uninterested in the 'separates route' should check it out ■

#### ON THE MENU



→ The user interface here is different to that of current Samsung Smart TVs, but still very neatly designed. Control via the supplied handset is slick, the graphical icons are cute and it's intuitive. An excellent job by Samsung

#### SPECIFICATIONS

**3D:** Yes  
**UPSCALING:** Yes. To Ultra HD  
**CONNECTIONS:** 2 x HDMI inputs; HDMI (ARC) output; optical digital audio input; analogue stereo input; Ethernet port; USB  
**SACD/DVD-A PLAYBACK:** No/No  
**DTS-HD/DOLBY TRUEHD DECODING:** Yes/Yes  
**CLAIMED POWER OUTPUT:** 1,330W  
**DIMENSIONS (MAIN UNIT):** 430(w) x 55(h) x 315(d) mm  
**WEIGHT (MAIN UNIT):** 3.3kg  
**FEATURES:** FM tuner; Auto Sound Calibration (via supplied mic); wireless transmission for rear speakers; 7.1 channel amplification; DTS Neo: Fusion; nine sound modes; DLNA media streaming; USB media playback; App portal; built-in Wi-Fi; web browser; GaN and valve amp technology; dual core processor; screen mirroring via AllShare Cast; user EQ; Blu-ray/3D Blu-ray/CD playback

#### HCC VERDICT



#### Samsung HT-F9750W

→ £1,500 Approx → [www.samsung.co.uk](http://www.samsung.co.uk)  
 → Tel: 0330 726 7864

**HIGHS:** Rich, warm, big performance; appealing user interface; packed with additional features; 'wireless' rears; great design  
**LOWS:** Costs more than similarly-specced rivals; DTS Neo: Fusion won't suit everyone; hassle to assemble; auto EQ didn't like my room

Performance ★★★★★

Design ★★★★★

Features ★★★★★

Overall ★★★★★



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#### AV INFO

**PRODUCT:**  
Premium HDMI-  
equipped soundbar

**POSITION:**  
Bowers & Wilkins'  
only soundbar  
product

**PEERS:**  
Bose Cinemate ISR;  
Libratone Lounge;  
Sonos PlayBar



# Return of the wideboy

Bowers & Wilkins' debut Panorama was certainly impressive, but lacked vital connectivity. This HDMI-equipped second-gen model aims to win over **Danny Phillips**

**THE LED-INSPIRED MOVE** towards wafer-thin TV screens means there's no room inside their cabinets for powerful speakers. The result? Weedy, strained sound quality. Little wonder, then, that sales of soundbars have gone through the roof and audio brands are falling over themselves to get a slice of the pie. One such brand is Bowers & Wilkins, which in 2009 launched the Panorama – an expensive, luxurious soundbar that delivered stunning sound quality but lacked crucial HDMI connections.

Now B&W has unleashed the Panorama 2, which, like any good sequel, aims to go bigger and better, as well as upping the required budget – £1,650 to be precise.

With the majority of soundbar sales falling within the £100-£300 price bracket, is there still an appetite for a mega-bucks premium soundbar? B&W certainly hopes so.

Your £1,650 gets you a sumptuously made product, hewn from the finest materials and blessed with stunning looks. The enclosure is bulky but curvy, and styled in mirror black stainless steel that attracts more fingerprints than a *CSI* crime scene.

Its attention to detail is delightful. A fine steel mesh covers the front, while a newly-added proximity sensor lights up the touch-sensitive controls when you wave your hand near it. These govern volume, input and sound mode selection.

#### Internal aggression

One thing you don't get with the Panorama 2 is a separate subwoofer – that's because bass frequencies are handled by two 3.5in woofers inside the soundbar, reducing clutter considerably. Buyers aren't necessarily deterred by a separate sub – 8 out of 10

soundbars sold in 2012 were accompanied by one, says GfK – but B&W clearly feels the Panorama 2 can do the business without one.

There are nine drivers in total, all newly designed. The two woofers join a Nautilus tube-loaded tweeter and two midrange drivers in the all-important centre section, while four separately-housed 3in drivers handle the 'surround' channels.

It's worth pointing out that the Panorama 2 is a multichannel affair, with six Class D digital amplifiers on board supplying 5 x 25W to the centre drivers and surrounds, and 50W to the woofers.

Connectivity is vastly improved over the original. Crucially, this version boasts three HDMI inputs and an ARC-compatible output, bringing it bang up-to-date with today's Blu-ray decks and TVs. Here, then, it immediately stands out against rival (though





# SPECIFICATIONS

**DRIVE UNITS:** 2 x 3.5in woofers; 2 x 3in midrange drivers; 4 x 3in surround drivers; 1 x 1in Nautilus tube-loaded aluminium dome tweeter

**AMPLIFICATION:** 175W

**CONNECTIONS:** 3 x HDMI inputs; 1 x HDMI output (ARC compatible); 1 x 3.5mm analogue/digital combi input; RS-232 service connector; subwoofer output

**DOLBY TRUEHD/DTS-HD MA:** No/No

**SEPARATE SUB:** No

**REMOTE CONTROL:** Yes

**DIMENSIONS:** 1,100(w) x 125(h) x 181(d)mm

**WEIGHT:** 14.1kg

**FEATURES:** Onscreen GUI; Dolby Digital & DTS decoding; Dolby Pro-Logic II; FlowPort; proximity sensor; wall or tabletop mounting; mirror black stainless steel skin and black steel mesh grille

less expensive) products: Sonos' PlayBar, Bose's Cinemate 1SR and Libratone's Lounge all eschew HDMI hookup. More fool them.

Other connections are a combined analogue and digital 3.5mm input, an RS-232 service connection and a subwoofer output in case you feel the onboard woofers don't dig deep enough.

## Digital drought

At this price I wanted the Panorama 2 to be an all-singing, all-dancing audio epicentre but that doesn't quite come to pass. There's no USB port for digital music playback, and no Bluetooth, AirPlay or DLNA streaming either. For £1,650, that's not really good enough, particularly for the type of audiophile buyer it's likely to attract. And it doesn't look good next to the Sonos and Libratone models.

In terms of audio decoding, the unit supports Dolby Digital and DTS but not Dolby TrueHD or DTS-HD Master Audio. Thankfully that's not a big deal given that you can feed LPCM (decoded by your Blu-ray deck) into the HDMI inputs. Meanwhile, Dolby Pro-Logic II expands stereo content.

An onscreen menu is fed to your TV over HDMI. I'm not talking jazzy graphics and slick animations, but it proves very useful, allowing you to control every aspect of the Panorama 2's audio performance. There are bass and treble adjustments, different Bass EQ modes for tabletop and wall placement, plus volume and distance settings for an external sub.

The Panorama 2 cements its place as the Rolls Royce of soundbars with a spellbinding performance. It's a remarkably smooth and silky listen, teasing out the tiniest details and playing string-heavy movie scores with the pomp and finesse of decent floorstanders.

That top-drawer treble is what sets this soundbar apart from cheaper rivals – there's a level of insight and texture here that £250 budget jobs just can't match.

The Panorama 2's other great talent is its ability to sound like a much bigger system. Its sense of scale is phenomenal given the cabinet limitations – raucous action scenes are potent and energetic, underpinned by taut bass that floods the room without sounding boomy. Crashes and explosions blast from the speakers with controlled force, while dialogue is articulated with terrific depth and clarity.

Cleverly, the surround drivers disperse sound in a way that creates a wide, natural sweet spot without resorting to ineffective virtual surround algorithms. There's no sense of rear effects placement or steering but that's always the big sacrifice when buying a soundbar – and I expect you'll be too caught up in its other virtues to care.

On balance, the Panorama 2 justifies its wallet-destroying price tag – but only just. I'm disappointed by the lack of wireless streaming options and digital file support, but with such sublime sound quality, plentiful sockets and a stunning design, it's hard not to succumb to its luxurious charms ■

# HCC VERDICT



## Bowers & Wilkins Panorama 2

→ £1,650 Approx → [www.bowers-wilkins.com](http://www.bowers-wilkins.com)  
→ Tel: 0800 232 1513

**HIGHS:** Sophisticated, potent sound; jaw-dropping build quality and design; three HDMI inputs

**LOWS:** No wireless music streaming or USB; expensive; HD audio decoding not built-in; no dedicated subwoofer

Performance ★★★★★

Design ★★★★★

Features ★★★★★

Overall ★★★★★



# Panasonic pushes the boundaries

The brand's largest consumer plasma is a drop-dead gorgeous edifice with a features list to die for. **Steve May** wishes it had better presets, though

## AV INFO

**PRODUCT:**  
65in Full HD 3D  
plasma display

**POSITION:**  
Panasonic's largest  
consumer-facing  
plasma. 60in ZT65  
is higher-end

**PEERS:**  
Samsung  
PS64F8500;  
LG 60PM970T

As well as two remotes, the VT65 offers an 'electronic pen'



**FOR SUCH A** big-boned screen, Panasonic's 65in TX-P65VT65 NeoPlasma wears its weight well. A narrow metal trim with edge-to-edge black-filtered glass lends it a clean, lean appearance. If you've always considered that any TV larger than 50in will be an inconceivable intrusion in your living space, then this model could well change your mind.

In addition to its slimness, there's some very clever engineering at work here. A pop-up webcam is built into the top while forward-facing speakers, barely 7mm wide, sandwich the screen (previous big plasmas from the brand threw audio out the back, with obviously muffled results).

In addition to the regular IR remote control, the Viera VT65 comes with two Bluetooth peripherals: a dumpy touchpad controller with integrated microphone that invites you to sweep your thumb every which way, and an electronic pen. The latter actually allows you to write and doodle directly on the screen itself (and save your scribbles), supposedly without scratching the display. Of course, writing on a TV with a pen (electronic or not) is hideously counter-intuitive, and sends all the wrong messages to youngsters who won't be able to differentiate a Bluetooth pen from a magic marker. Use this at your peril...

Connections include (a miserly) three HDMI, component/AV/Scart input via a supplied adaptor, three USBs, Ethernet, optical audio output and CI slot. The TV has an SD card slot for quick playback of JPEGs and AVCHD footage, and Wi-Fi is incorporated.

Significantly, the set offers a choice of twin Freeview HD or Freesat tuners (the latter requiring an LNB splitter). This duality provides a wide variety of practical innovation. The ability to timeshift programmes to an attached external USB hard drive, via a 3.0 USB connection, goes from being a curiosity of limited practical value to a genuine boon, as the set can record one programme while you watch another, therefore becoming a PVR replacement. It also offers a split-screen option

– with two channels simultaneously displayed – twin-screen browsing and second-screen independent viewing on a smart device.

Naturally, there's also a wide range of streaming TV services as well as a variety of other diversions. Note that Panasonic's My Home Screen interface has been optimised for smaller displays, and at this size looks somewhat overblown, as if the UI has been constructed from toy blocks.

File playback from USB is first rate. The set plays most codecs and wrappers, including WMV, MKV, MP4, MPG, VOB, AAC, FLAC, MP3 and WMA. Across a network from a NAS, compatibility is only a tad more restricted, with MKVs awkwardly deemed unplayable.

## Extreme images

The TX-P65VT65 delivers images of extreme clarity and punch, but Panasonic makes you work hard to get the best from the set. Out of the box, this TV, with its Infinite Black Ultra filter, looks leaden on almost every preset. Every year, the company's picture engineers endeavour to push their NeoPlasma panels darker and more dynamic than ever before, but on the evidence of the VT65 I'm tempted to argue they've simply gone too far. Images are dark and unsubtle, with crushed, inky blacks and greys alive with pixel noise. The problem is that panel luminosity appears to have been ratcheted up too high to achieve a higher number of gradations; viewed up close, peak whites bleach and pixel noise fidgets just above absolute black.

There is respite, though. Opt for the new Custom setting and you're given access to a Panel Luminance control. This can be reduced from High to Mid or more preferably Low, bringing immediate relief (the set's black level performance isn't diminished by dropping luminosity, as blacks remain convincingly deep).

Colour fidelity is excellent, with reds particularly deep and intense. The screen's Colour Gamut setting is best left on Native





Although it's a big TV, Panasonic's 65in plasma is nicely styled

**GRAPHIC VIOLENCE**

Why *BioShock Infinite* is this year's killer game, p100





— using Blu-ray as a source, images really zing. Other options are SMPE-C, EBU and REC 709. Select the latter and it depletes vibrancy, and you'll miss out on the extended colour space offered by select sources.

### Daunting task

The VT65 bristles with adjustments and tweaks, which is fine for enthusiasts but daunting for those that are less interested in parameter minutia. Perhaps the most contentious is IFC (Intelligent Frame Creation), Panasonic's proprietary image smoother. On Panasonic's LED LCDs, IFC is key to retaining detail during movement. On the TX-P65VT65, it's much more of a minefield.

The important point to note is that even with IFC (aka 24p Smooth Film with 24p content) turned off, this panel, which boasts a short light emission of just 1/3,000th of a second, is natively fast enough to present 1080 lines of motion resolution, when measured at 6.5ppf. With IFC off, there're no motion artefacts and horizontal panning judder effects. Switch it on, though, and all sorts of nasty things happen. Set to Min, horizontal pans exhibit occasional colour blur. Set to Mid, artefacting around moving images becomes apparent. On Max, this artefacting becomes quite extreme and motion takes on that distinctive ice-skating effect. Conversely it also gets sporadically stuttery; playing *GTA* with IFC on Max was like being sandblasted in the face.

What IFC can do is combat the subtle blurring that can still occur with fast movement, which can bring benefits. The troll BBQ campfire sequence from *The Hobbit...* (2D Blu-ray) is a case in point. This darkly-lit scene, in which Bilbo and his Dwarven mates are captured by a trio of trolls, includes a fast-

**Sound quality is passable, but buyers of this high-end screen will want to add their own separate speakers**

paced action sequence that can look a tad smudgy with IFC off. With IFC on Mid, the fight becomes easier to follow, and looks not unlike the movie's HFR 48fps cinematic presentation.

The VT65 is best viewed with HD sources; SD fare looks extremely ropey in comparison. 3D performance is fine, although while the presentation is highly detailed, and reasonably clean, challenging test sequences still induce double imaging — as with the Sony W9 (reviewed on p42), *Tangled's* menu poses problems. Still, the stereography itself is crisp and immersive.

The screen's sound quality is a slight improvement on what I've heard before from Panasonic's PDPs. Bass fans will feel short-changed, however.

### Easy to accommodate

Overall, the TX-P65VT65 has the power to impress. For such a large panel, it proves easy to accommodate, thanks to its svelte glass and metal design, and boasts a features list that's decidedly futuristic — voice interaction isn't as foolish as you might imagine and that second tuner is a treat.

As for image quality, the set rewards enthusiasts with beautifully sharp, dynamic images on a fantastic scale, but you can't rely on any of the presets, which has to be considered a disappointment, and I feel the brand's engineers are driving this panel too hard in search of blackness and contrast. It's also a bit noisy in operation, courtesy of its internal cooling fans. The TX-P65VT65 therefore has the potential to be great, but it's not perfect ■

### ON THE MENU



→ The My Home Screen user interface offers the right blend of customisation and usability, with shortcuts to streaming services and programme listings, but scaled to 65in it looks a little clunky...

### SPECIFICATIONS

**3D:** Yes. Active Shutter (two pairs of RF glasses supplied)

**FULL HD:** Yes. 1,920 x 1,080

**TUNER:** 2 x Freeview HD; 2 x Freesat/DVB-S2 satellite

**CONNECTIONS:** 3 x HDMI; AV adaptor for component/Scart/Composite; 3 x USB; optical audio output; Ethernet; SD card slot; CI slot

**SOUND:** 20W

**BRIGHTNESS (CLAIMED):** NA

**CONTRAST RATIO (CLAIMED):** NA

**DIMENSIONS (OFF STAND):** 1,531(w) x 887(h) x 51(d)mm

**WEIGHT (OFF STAND):** 42kg

**FEATURES:** Built-in Wi-Fi; Hexa Processing Engine; 3000Hz Focused Field Drive; Intelligent Frame Creation; Smart Viera My Home Screen UI; Skype; USB hard drive recording; USB/SD card/DLNA media playback; Swipe & Share 2.0 compatible; Bluetooth touchpad/voice controller; electronic pen...

### HCC VERDICT



### Panasonic TX-P65VT65

→ £3,400 Approx → [www.panasonic.co.uk](http://www.panasonic.co.uk)  
→ Tel: 0844 844 3899

**HIGHS:** Sleek design; intuitive user interface; twin tuners; reasonable smart portal; outstanding clarity and colour performance  
**LOWS:** Overdriven picture presets; high luminosity panel settings highlight pixel noise; internal panel cooling fans are noisy

**Performance** ★★★★★

**Design** ★★★★★

**Features** ★★★★★

**Overall** ★★★★★





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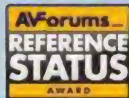
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SC-BTT282EBK	£299	£379
SC-BTT290EBK	£299	£379
SC-BTT490EBK	£379	£459
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SC-HTB520	£299
SC-HTB550	£369

## 3D3

UNIVERSAL 3D TV EYEWEAR



### A1111 (IR/RF)

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3 Pairs	£140	4 Pairs	£180
5 Pairs	£200	6 Pairs	£240

### A1112 (RF)

1 Pair	£40	2 Pairs	£75
3 Pairs	£110	4 Pairs	£140
5 Pairs	£170	6 Pairs	£200



# Bargain Blu-ray!

Hi-def disc-spinners have become smaller, smarter and cheaper, making them great for adding to second-room screens. **Mark Craven** auditions a trio of big-brand offerings

**PANASONIC DMP-BDT230, £140**

Angular deck with a great user interface

**PIONEER BDP-150, £150**

SACD onboard, but lacks a proper Smart hub

**SONY BDP-S5100, £140**

Styled to match the brand's new TVs – and SACD is offered





# Enter the middleman

Sitting below Panasonic's DMP-BDT330, this straightforward player still has a lot going for it



**PANASONIC HAS UNLEASHED** a quartet of Blu-ray players in 2013, and the DMP-BDT230 reviewed here sits in the middle, below the £200 DMP-BDT330 (featured in the last issue) and above the £110 DMP-BDT130 and the £75 DMP-BD79.

As you step down the range, the differences between the products are slight, but potential buyers should take note of the following: this player doesn't offer the 4K upscaling or twin HDMI outputs of its dearer sibling. It sports a black finish, rather than silver, and its disc tray isn't hidden by a transparent pull down flap. It is therefore oh-so-slightly less stylish.

Beyond the styling and those missing tech ticks, there's nothing to separate the DMP-BDT230 from the DMP-BDT330, so I think this deck could be the better option for the budget-conscious. I can't envisage the 4K upscaling chipper ever being employed, and the diminutive nature of the player itself means the silver or black styling will make little aesthetic difference wherever the deck is sited. It's only the single HDMI output that stands out, as it makes the DMP-BDT230 unsuitable for anyone using an older, 3D-ignorant AV receiver.

## Business as usual

The above differences aside, the DMP-BDT230 proves an identical user experience to the DMP-BDT330. This means you get the same reasonably fast disc-loading times and

neatly-styled hi-res user interface (with the latter also proving simple to whizz around via the supplied remote control). Yet you also get the same irritating setup foible, whereby the Panasonic player outputs the lossy core audio of a Dolby TrueHD or DTS-HD Master Audio mix by default. Changing this only requires

**'The Three Musketeers 3D was delivered with tantalising depth, natural colours and intricate detailing'**

a quick fiddle in the Sound settings menu, but I wonder whether casual users will ever bother.

As a multimedia hub, the DMP-BDT230 includes support for FLAC and MKV, though the latter is only an option via USB. (The presence of an SD card slot is unique in this group, and is handy for viewing digital camera snaps without recourse to your PC). Browsing content isn't the most inspiring experience either, as the menu system employed is noticeably older than the front-end UI. It is, however, idiot-proof.

The same is true of the Viera Connect hub, which uses big icons and a forwards/backwards control to let you delve deeper. Annoyingly, though, during my audition I became unable to access the app portal due to the player's insistence it needed a firmware update, with it then reporting that no update was available. Odd.

AV performance is, as with practically all Blu-ray players these days, hard to fault. At no point during my audition did the Panasonic falter. A stereoscopic Blu-ray platter of *The*

*Three Musketeers* (2011) was delivered with tantalising depth and a natural colour palette, and detailing is solid – the intricate fabrics of the movie's period costumes come to the fore. Sonically, the disc's DTS-HD 5.1 mix was output without fuss, and a run-through of some test patterns from Spears & Munsil's *HD Benchmark* Blu-ray didn't throw up any hideous artefacts.

## Easily recommended

Overall, the Panasonic deck is easily recommended as a budget Blu-ray player. Even in this black guise its form factor is very appealing and the UI is the slickest of our tested trio. Discs are handled with care and it's quiet in operation. However, the Viera Connect hub does feel like a bolted-on feature rather than something that's truly integrated – and, unlike the competition here, Super Audio CD playback isn't offered.

## SPECIFICATIONS

**3D:** Yes. Plus 2D-3D conversion

**UPSCALING:** Yes. To 1080p

**MULTIREGION:** No. Region B BD/R2 DVD (but you might find a hacked version if you look around...)

**HDMI:** Yes. 1 x output

**COMPONENT:** No

**MULTICHANNEL ANALOGUE:** No

**DIGITAL AUDIO:** Yes. 1 x optical output

**ETHERNET:** Yes

**BUILT IN WI-FI:** Yes

**SACD/DVD-A:** No

**DOLBY TRUEHD/DTS-HD DECODING:** Yes

**DOLBY TRUEHD/DTS-HD BITSTREAM:** Yes

**DIMENSIONS:** 430(w) x 41(h) x 181(d)mm

**WEIGHT:** 1.6kg

**FEATURES:** Viera Connect Smart hub, including Netflix, Acetrax, BBC iPlayer and web browser; SD card slot; 2 x USB inputs; media playback from USB, SD card and DLNA; MiraCast content sharing via Wi-Fi Direct; 3D Effect Controller; user-definable Contrast, Brightness, Sharpness and Colour settings



The design of Panasonic's app portal remains unchanged on its 2013 players



# Old-school offering

The BDP-150 looks like a Blu-ray player from a couple of years ago. And it sometimes feels like it



**PIONEER'S BDP-150 OFFERS** something a little different than its rival Sony and Panasonic models, but comes in at a similar price tag. It won't be your wallet that makes the buying choice for you, rather the Pioneer's way of doing things.

Most obviously, it comes from a different school of design. Where the Panasonic DMP-BDT230 and Sony BDP-S5100 are adorned with natty angles and svelte dimensions, the BDP-150 feels more mature. It's styled like all players used to be – full-width, square-edged and quite tall. Personally, I like this approach, and the brushed black fascia, centrally-mounted disc tray and chunky buttonry are certainly appealing. However, if you're planning on sneaking this deck into a second room – your bedroom perhaps – you will probably find yourself wishing it was a bit more discreet.

Equally important is the BDP-150's attitude towards extra-curricular entertainment. It's billed as a network player thanks to its DLNA compatibility and USB playback (and file support extends to FLAC and WMA),

but it lacks any kind of Smart hub beyond the provision of YouTube, Netflix and Picasa. The first two are useful, the latter... well, if anyone has ever used this app, please write in and tell us.

Accessing these services, or files stored on your own network, is achieved via the deck's rear-mounted Ethernet jack. Unlike the others here, Wi-Fi is not built in. Pioneer will sell you its AS-WL300 dongle but it retails for £50. So adding that onto the BDP-150's asking price makes it seem immediately like less of a bargain. When Pioneer launches new players later this year, I expect this irritation to have been rectified.

Connectivity includes a lone HDMI output, a coaxial digital output, composite video (why?) and stereo analogue outs should you want to make use of the player's 192kHz/24-bit DAC. There are also two USBs – use the front port for quick media playback and the rear for the Wi-Fi dongle.

The user interface is a no-nonsense affair, offering little of the Panasonic's visual panache or the quirkiness of Sony's option-laden XrossMediaBar. As such, it's slightly easier to get to grips with, using tidy fonts and a simple left-to-right system. The Home Media menu provides access to your digital files, while Web Contents takes you to the aforementioned trio of apps. Note that there is no web browser, unlike the Panasonic and Sony rivals.

## SACD delight

As well as 3D Blu-ray support, the BDP-150 also offers Super Audio CD playback, like its Sony BDP-S5100 group test contender. With my venerable copy of David Bowie's *Act of Choice* (5.1), output as DSD to my Yamaha RX-V673 AVR, the Pioneer really

The BDP-150's menus are almost monochromatic in tone, but easy to get to grips with

## SPECIFICATIONS

**3D:** Yes.  
**UPSCALING:** Yes. To 1080p  
**MULTIREGION:** No. Region B BD/R2 DVD  
**HDMI:** Yes. 1 x output  
**COMPONENT:** No  
**MULTICHANNEL ANALOGUE:** No. Stereo outputs are provided  
**DIGITAL AUDIO:** Yes. 1 x coaxial output  
**ETHERNET:** Yes  
**BUILT IN WI-FI:** No (optional £50 dongle required)  
**SACD/DVD-A:** Yes. SACD  
**DOLBY TRUEHD/DTS-HD DECODING:** Yes  
**DOLBY TRUEHD/DTS-HD BITSTREAM:** Yes  
**DIMENSIONS:** 435(w) x 58(h) x 250(d)mm  
**WEIGHT:** 2.1kg  
**FEATURES:** Netflix, YouTube and Picasa apps; Wi-Fi via dongle; 2 x USB inputs; PQLS anti-jitter tech with compatible Pioneer AVRs; Sound Retriever Link; 192kHz/24-bit DAC; Quick Start function; composite video output; Stream Smoother link for low bitrate video

shows the aural benefits of the lossless format, with low frequencies delivered with impressive weight and a clarity and airiness to the vocals and percussion. I found it very easy to listen to.

Movie performance is equally sublime. Like the Panasonic player, the Pioneer offers a raft of picture adjustment tools that frankly are best ignored – I found the Standard mode to be perfectly agreeable. Images come through packed with detail, sharpness and believable colours. And it has a smoothness that perhaps edges out the competition.

## Straight-up AV

In summary, Pioneer's BDP-150 is a perfect choice for those who favour straight-up AV performance and a 'traditional' styling over 'net-connected smarts and easy installation. However, at this end of the market, I worry for Pioneer's sake that such consumers may be few and far between.





# A sense of style

Sony's deck marries a 'look at me!' design to some useful Smart talents



**THE BDP-S5100 ISN'T** Sony's top-of-the-pile Blu-ray spinner. That accolade resides with last year's BDP-S790, which is being continued for 2013. Yet the deck tested here brings some new additions – notably the 'sense of quartz' design and Triluminos Colour branding.

The latter claims to produce a colour enhancement when the deck is used in conjunction with a Triluminos display – Sony's W9 series TV, in other words. In reality this means it is X.V.Color capable. The 'sense of quartz' design, meanwhile, is Sony's way of saying the top of its BD player rises up into a peak, creating eye-catching angles, and making you wonder whether it's safe to put a cup of tea on top of it. Which it is.

Build quality is the least impressive of our trio, with a wobbly disc tray and an HDMI input that, for some reason, just didn't feel like a smooth fit for my cabling. The remote control is stumpy, but gloriously intuitive.

Connections wise, the BDP-S5100 offers a single HDMI hookup, a coaxial digital audio output, USB and Ethernet jacks. Wi-Fi is built in and worked without hiccup.

The 4K upscaling found on the BDP-S790 has gone AWOL, as has the Skype compatibility. However, Super Audio CD playback has been retained, making this player

a comparable rival to the Pioneer BDP-140. Like the Pioneer, though, the Sony is by no means an audiophile solution – DVD-Audio discs are eschewed, as are multichannel phono outputs. But I'd rather have SACD playback than not.

## Simple setup

With installation requiring nothing more than an HDMI cable into my AVR, setting up the Sony takes mere seconds. A step-by-step guide lets you choose to activate the player's Quick Start mode (the option of faster bootup times at the expense of increased power consumption in standby mode), jump onto your home network and set the language. Then you're done.

The Sony's UI feels a bit outdated. Navigation of the XrossMediaBar system remains simple, but it's practically the same environment as that on my three-year-old BDP-S570. Furthermore, the way Smart services are integrated is a bit confusing, as you can either select from the home screen or from the dedicated SEN (Sony Entertainment Network) hub. The latter is more graphically appealing, but slower in operation.

Media playback is hampered a tad by the utilitarian interface – I preferred the Panasonic's dedicated sub-menu section. Furthermore, I had to delete and update my Windows 7 server before the Sony would finally play ball.

On-demand content is decent. LoveFilm, Netflix and YouTube are joined by BBC iPlayer and Demand Five, and there are other apps, such as Crackle, worth exploring. PPV films

## SPECIFICATIONS

**3D:** Yes. Plus 2D-3D conversion  
**UPSCALING:** Yes. To 1080p  
**MULTIREGION:** No. Region B BD/R2 DVD  
**HDMI:** Yes. 1 x output  
**COMPONENT:** No  
**MULTICHANNEL ANALOGUE:** No  
**DIGITAL AUDIO:** Yes. 1 x coaxial output  
**ETHERNET:** Yes  
**BUILT IN WI-FI:** Yes  
**SACD/DVD-A:** Yes. SACD  
**DOLBY TRUEHD/DTS-HD DECODING:** Yes  
**DOLBY TRUEHD/DTS-HD BITSTREAM:** Yes  
**DIMENSIONS:** 290(w) x 43(h) x 199(d)mm  
**WEIGHT:** 1.1kg  
**FEATURES:** Sony Entertainment Network with Movies and Music Unlimited; VOD apps including BBC iPlayer, LoveFilm, Netflix, Demand 5; Gracenote; XMB interface; TV SideView remote; DSD output; media playback via DLNA and USB; Sense of Quartz design; Precision CinemaHD upscale; Triluminos colour; 2 x USB inputs (one front, one rear)

and music can be snaffled from Sony's own ...Unlimited services.

Ridley Scott's *Robin Hood* on Blu-ray loaded quickly and I was soon gorging on the Sony's razor-sharp presentation of medieval England. Visuals are smooth and life-like. It's natural colour palette seems a little punchier than its rivals, although shadow details are maintained during dark scenes. My 3D *Musketeers* platter again proved engrossing.

As with the Pioneer, the BDP-S5100 can handle SACDs, and while its performance is solid, my David Bridie disc didn't come through with quite the same weight and range as on the BDP-150. Clarity was superb, though.

A fine Blu-ray player, then, but build quality and usability could be improved – and the dinky design is a 'love it or hate it' affair..



Hit the SEN button on the remote to go straight to Sony's dedicated app, video and music interface



# Final standings

**IF YOU'RE LOOKING** to spend around £150 on a Blu-ray player it's likely you're either building a budget home cinema setup, or wanting to add hi-def disc playback to another HD screen somewhere in your house. All three of the models tested here are more than up to either task, although there are differences between them that could sway you one way or another – choosing a clear-cut winner has proven tricky. So we haven't bothered...

For some people, Pioneer's BDP-150 will be the preferred option. The deck's user interface, while far from glamorous, is the most intuitive, and the chunky styling will appeal to mature AV fans. However, while it looks like a serious machine, build quality is less reassuring, and the supplied handset feels dangerously shoddy. More importantly, it lacks some must-have Smart features (LoveFilm and BBC iPlayer, for a start) and isn't Wi-Fi-capable. Having to hardwire the deck to your home network could prove tricky depending on your setup. On the other hand, its AV performance, particularly with Super Audio CDs, stands out here.

Sony's deck is the smallest of the lot, and that could stand in its favour. Tucking it away in a bedroom or kitchen, where you're unlikely to have plenty of rack space, will be a doddle – and built-in Wi-Fi adds installation. Its SACD compatibility is also a boon at this price point, and the Smart hub is

well-stocked. However, its build quality isn't great and the user interface is overwrought. Browsing your home media is a dull affair.

## No hi-res audio

Panasonic's DMP-BDT330 ignores SACD and that may strike it from your shopping list immediately, although for many buyers armed with only 150 notes it won't be an issue. Meanwhile, the Viera Connect portal (accessible via built-in Wi-Fi) offers a decent (but not outstanding) selection of content, but could do with a visual refresh, quicker operation and better integration into the otherwise slick user interface. Yet design-wise, the Panasonic is our favourite, with a svelte form factor that will be easy to accommodate and a robust feel. And its AV performance is hard to fault.

So, three affordable Blu-ray decks that are difficult to separate. The choice is yours...

## STEP IT UP A NOTCH...



**Pioneer BDP-450:** Now offered for around an extra £50 over the BDP-150, this step-up Pioneer adds DVD-Audio playback, making it a true universal machine, plus some welcome feature additions in the shape of twin HDMI outputs and a much-improved build quality.

However, web content remains sparse and Wi-Fi is still an optional extra.

**Sony BDP-S790:** Now available from around £210 and up, Sony's 2012-era player lacks the new Sense of Quartz design, but carries a pair of HDMI outputs

and stereo analogue outputs, and offers onboard 4K upscaling.

**Panasonic DMP-BDT500:** Sporting a more traditional full-fat design, Panasonic's top-end deck (priced at around £250) eschews Super Audio CD and DVD-A playback but still has something to offer audiophiles, courtesy of its 192kHz/32-bit Burr-Brown DACs and rather delightful Tube Sound modes. We're not fans of the touchpad remote, though. See if you can blag a normal one from your AV dealer.



Sony BDP-S790: 4K upscaler



Panasonic DMP-BDT500: audiophile

## HCC VERDICT



### Panasonic DMP-BDT230

→ £140 Approx

→ [www.panasonic.co.uk](http://www.panasonic.co.uk)

→ Tel: 0844 844 3852

**HIGHS:** Straightforward DLNA interface; neat design and solid build; fuss-free BD playback

**LOWS:** No SACD playback; Viera Connect portal feels a little old and 'bolted-on'; firmware update niggle

Performance ★★★★★

Design ★★★★★

Features ★★★★★

Overall ★★★★★

## HCC VERDICT



### Pioneer BDP-150

→ £150 Approx → [www.pioneer.co.uk](http://www.pioneer.co.uk)

→ Tel: 0870 600 1539

**HIGHS:** Impressive SACD and Blu-ray performance; simple interface

**LOWS:** No built-in Wi-Fi; Smart services limited to Netflix, YouTube and Picasa; cheap-feeling remote control; might be a bit big for some environments

Performance ★★★★★

Design ★★★★★

Features ★★★★★

Overall ★★★★★

## HCC VERDICT



### Sony BDP-S5100

→ £140 Approx → [www.sony.co.uk](http://www.sony.co.uk)

→ Tel: 0844 8466 555

**HIGHS:** SACD compatibility; intuitive remote control; plenty of VOD content including Sony's PPV service

**LOWS:** User interface could be simplified; uninspiring build quality; styling won't suit everyone; utilitarian DLNA portal

Performance ★★★★★

Design ★★★★★

Features ★★★★★

Overall ★★★★★





# Not quite over the rainbow

Little bigger than a shoebox it may be, but **Martin Pipe** discovers that Acer's 3D-compatible H7532BD offers decent value for money – with a few caveats

## AV INFO

**PRODUCT:**  
Affordable single-chip Full HD DLP projector with 3D support

**POSITION:**  
One rung from pole-position in Acer's new 'H' range

**PEERS:**  
BenQ W1070; Optoma HD25

**MOST OF ACER'S** projectors have been aimed at commercial and educational users, but a handful have been designed with home cinema in mind. Of these, the latest is the H7532BD. Surprisingly compact, this Full HD 1080p PJ sports all of the connectivity you'll find on bulkier units. First and foremost are the two HDMI inputs, which will accept 3D signals from suitable Blu-ray players, although no pairs of the necessary Active shutter glasses are supplied.

The H7532BD adheres to the DLP-Link standard for communication between PJ and glasses. Here, the shuttering signals are cleverly (and invisibly) projected onto the screen alongside the picture. No need to worry, then, about sporadic dropouts, or infra-red 'floods' overpowering your remote handsets. Relying on an agreed standard means a wider choice of glasses, too; Acer's are £70 a pop.

Among the rest of the connections are VGA (for computers), composite, component, a 12-volt trigger for motorised screens and even an S-video port for your long-forgotten S-VHS VCR. Whether you would want to feed noisy analogue videotape into a machine that's capable of throwing a 300in diagonal image is another matter.

You also get a silly little 3W audio system that foxed me when I first installed the PJ; I thought there was something wrong with my rear speakers. Mercifully, this 'squeaker' can be turned off.

Whatever your choice of source, it's directed towards a single 0.65in DLP DarkChip 3 – the same Full HD 16:9 imaging device that beats at the heart of the company's flagship H9501BD. Also common to both machines is a single-chip design, and so a colour wheel (a 6-segment type here) is required.



Like the PJ, the supplied remote is small



That DLP chip is driven by an Acer-specific video processing engine with proprietary tricks like 'ColorBoost II+'. The required light comes from an Osram bulb claimed to live for up to 4,000 hours in 'eco' mode, and is cast onto your screen via a 1:1.2 zoom lens.

The relevant controls for focusing and zoom are accessible from the PJ's top panel, which also harbours a pad of buttons. An absence of lens shift controls means you need to be careful where you site the projector relative to the screen. You should try to avoid using the digital keystone correction feature.

## 'The Acer is a surprisingly good 3D performer – *Avatar's* banshee flight proves highly immersive'

A decent onscreen test pattern is provided for lens adjustment and screen registration. Menu options accommodate front/rear and ceiling/desktop projection. If you choose to place the H7532BD on a flat surface (its diminutive stature, onboard sound and supplied carry-case make this a perfectly portable PJ), adjustable feet will help you align the picture.

### Getting started

An impressive array of adjustments are offered across the menus, including gamma, red/green balance (tint), dynamic black, noise reduction and a feature that compensates for coloured paintwork if you're projecting onto a wall. There are no colour temperature presets, but full control of RGB bias and gain are provided. These settings cannot be applied to the six preset viewing modes (among which are Movie, Game and Sport). Dare to make a change, and you're automatically taken into the seventh User mode. In other words, there's only one User memory – each input does, however, get its own, and there's also a bank dedicated to 3D, the various modes of which

are engaged with a button on the tiny handset. In addition to Blu-ray 3D (frame packing), the H7532BD supports side-by-side and top/bottom modes. There's also a basic (and, very occasionally, convincing) 2D-to-3D conversion feature.

For all this, setup is straightforward – although when you're making adjustments, the picture can judder somewhat. Another complaint is that the image can take a while to settle after switching inputs.

Once fired up, black levels don't prove particularly strong, but can be improved (certainly for smaller pictures) by turning on the 'eco' mode. More concerning is the presence of DLP's rainbow effect, which I found quite distracting.

In 3D mode, rainbow is less apparent – and thanks to the light-attenuating qualities of the glasses, black levels fare better. Indeed, the H7532BD puts in a surprisingly good performance with 3D BDs. The first banshee flight of Jake Sully's Na'vi body (chapter 17) in *Avatar* is reproduced in all its negative-parallax glory, and proves highly immersive.

Another telling 3D test is *Prometheus*' star-chart sequence, which ends with a projected Earth – the Engineers' intended target – fizzling into nothing. With the Acer, those whirling orbital patterns and intricate details are well defined.

Rainbow effect apart, the PJ's 2D performance is also more than acceptable. Bold colours pack punch, as a spin of *Skyfall* demonstrates, but delicate fleshtones aren't the most accurate I've seen.

As you might expect, *Skyfall* is rich in detail, and this is conveyed faithfully by the H7532BD. In its darker scenes, though, background subtleties tend to disappear; an upwards gamma tweak pays dividends. There's no untoward judder when 007 chases the mercenary Patrice across the rooftops of Istanbul (on a motorbike...) – just a smooth, clear, image.

So, visually, the H7523BD is on the whole satisfying, provided you're not too sensitive to DLP's notorious rainbow effect. It has other niggles, too (computer giant Acer should know that memory, for multiple user settings, is cheap) but its portability and fair price tag could win the H7532BD some friends ■

### ON THE MENU

→ The Acer's menu system houses a surprising number of calibration options, including Gamma and RGB bias and gain. There are, however, no colour temperature presets

### SPECIFICATIONS

**3D:** Yes. And 2D-3D conversion

**FULL HD:** Yes, 1,920 x 1,080

**CONNECTIONS:** 2 x HDMI; composite; component; S-video; VGA (15-pin D-Sub); RS-232; USB (service only)

**BRIGHTNESS (CLAIMED):** 2,000 ANSI lumens

**CONTRAST (CLAIMED):** 50,000:1

**DIMENSIONS:** 194(w) x 95(h) x 229(d)mm

**WEIGHT:** 3.2kg

**FEATURES:** DLP DarkChip 3 imaging device; DLP-Link for (optional) 3D glasses; 38in-300in image; projection distance 1.5m-10m; throw ratio 1.5-1.8:1; MHL-compliant HDMI input; nVidia 3DTV Play ready; carry-case; built-in 3W speaker; eco mode; 4,000-hour claimed lamp life; proprietary video processing engine with ColorBoost II+ and ColorSafe II; 'DynamicBlack' iris control; 2x digital zoom; 1.2x optical zoom; 0.5W standby power consumption

Even budget PJs now offer dual HDMI inputs



### HCC VERDICT

**Acer H7532BD**

→ £870 Approx → [www.acer.co.uk](http://www.acer.co.uk)

**HIGHS:** Plenty of menu tweaks and inputs; small size and portability; excellent 3D image; bright; quiet in 'eco' mode

**LOWS:** Rainbow effect can be distracting; fleshtones and black levels could be better; long input-settling times; no lens shift

**Performance** ★★★★★

**Design** ★★★★★

**Features** ★★★★★

**Overall** ★★★★★



# Cutting the cost of convenience

This package offers a Smart 3D Blu-ray player, amplifier and speaker system for just £350 – and appeals to **Danny Phillips'** frugal instincts



Smaller rear speakers make this system quite easy to accommodate

**FOR MOST PEOPLE**, the process of piecing together a home cinema system is sheer bliss. Dealer auditions, studying spec sheets, poring over reviews to sniff out that perfect amp/speaker combo – for the seasoned enthusiast it's like a trip to Alton Towers. But for others, it's like being poked in the eye with a stick. That's the beauty of the all-in-one system: you get a complete setup in a single box, eliminating all the hassle and leaving you more time to actually sit down and watch movies.

Panasonic has plenty of one-box systems to choose from. The SC-BTT460 tested here sits below the top-end SC-BTT560 and SC-BTT880 models. It's a 5.1 array with a pair of large towers for the fronts but compact speakers for the rears.

Joining these in the box are a centre speaker, a passive subwoofer and a 3D-

capable Blu-ray receiver. The latter is the brains of the operation. A slim unit, it's been tarted up with sloping side panels, while the black finish and glinting silver strip running along the top of the fascia is a nice combo.

On the front you'll find a USB port and SD card slot but rear socketry is less impressive. For starters there are no HDMI inputs, making it a hassle to feed sound from external sources. You have to settle for the optical digital or analogue stereo inputs, and feed the picture to your TV separately. However, if your TV supports Audio Return Channel you can send sound to the system that way. Ethernet is present, but there's no built-in Wi-Fi – you'll need to invest in Panasonic's £80 dongle.

Like most one-box systems, the speakers are built to a price. The fronts, for example, come in three pieces and the middle section is

## AV INFO

**PRODUCT:**  
5.1-channel 3D  
Blu-ray system

**POSITION:**  
Sits below the  
SC-BTT560 and  
SC-BTT880

**PEERS:**  
Samsung HT-F5530;  
Sony BDV-E4100;  
LG BH6620P



alarmingly light and plasticky. The passive subwoofer is equally lightweight. That said, the cabinets look great, and for typical one-box buyers that's probably more important. Cable management in the towers keeps mess down.

Despite their compact dimensions, the two-way rear speakers find room for a full-range driver and Piezo super tweeter – some companies would have fitted a single full-range driver and been done with it.

When it comes to features, there's a sense of *déjà vu*. While Panasonic's latest TVs boast a jazzed-up interface and enhanced Smart features, Panasonic has kept its Blu-ray systems pretty much the same as last year. In most areas that's not a bad thing, but Viera Connect could really have done with an overhaul. Applications include biggies like BBC iPlayer, YouTube and Netflix, but I'm

**'The system conveys excitement and drama convincingly, confidently digging out details and effects'**

disappointed by the continued lack of ITV Player, 4OD and Demand 5 catch-up services. And, once again, the Viera Connect menu is split across several pages, which makes it cumbersome to use.

### Smooth and composed

The SC-BTT460 reproduces Dolby TrueHD and DTS-HD Master Audio soundtracks with considerable gusto. The sound boasts decent

weight and scale, while staying smooth and composed during busy action scenes.

The new LincSD amp under the hood is said to reduce clarity-affecting jitter and distortion, and indeed it does seem a little more refined than previous Panasonic packages. It can't match the finesse and slam of a dedicated separates system, but the SC-

BTT460 still conveys excitement and drama convincingly, confidently digging out the rich tapestry of detail during *Hellboy II*'s Troll Market scene, making the fluttering fairies and buzzing creatures sound crisp and airy. The swells of subtle background effects are deftly handled, and I had no trouble making out the variety of oddball voices amid the hustle and bustle, each one coming through loud and clear from the centre speaker. And when *Hellboy* and *Wink* start pummeling each other into the scenery, there's a decent sense of punch and purpose behind the blows.

That's helped considerably by the sub's ability to reproduce bass forcefully while avoiding excessive bloat and overhang, which comes as a nice surprise. It doesn't rattle your ribs like an active sub, but integrates more seamlessly than I expected, provided you've spent a bit of time fine tuning the levels. There's a dedicated volume, as well as 'Subwoofer Level' settings and an H.Bass mode, all of which need reining in.

Also pleasing about the Panasonic's performance is that it doesn't sound harsh or shouty when the going gets tough, something few one-box systems pull off. That makes frenetic action scenes easy on the ear without compromising excitement. The soundstage is also immersive, even more so when you activate the 3D Cinema Surround mode, which brings extra richness and body, as well as spreading effects wide and high. The trade-off is that you lose some of the positional sense and precision in the front and rear channels.

On the visual side, the SC-BTT460 delivers sharp and clean pictures, with sumptuous black depth and dazzling colours. 3D pictures also pass muster. If you want to improve them

further, there's a range of picture adjustments in the Options menu (which can be tweaked while you watch) and 3D image settings.

### Likeable system

Although far from spectacular, the SC-BTT460 is a likeable 5.1 system with a solid AV performance and a living-room friendly design. But the absence of HDMI switching, built-in Wi-Fi and some VOD services counts against it ■

Panasonic's system employs the brand's new LincSD amp technology to reduce jitter and distortion



### ON THE MENU



→ The main home screen is very similar to that of Panasonic's current Blu-ray players, but offers more options in terms of setup and adjustment. The Smart portal, accessed via the Network menu, is still the familiar Viera Connect hub

### SPECIFICATIONS

**3D:** Yes  
**UPSCALING:** Yes. To 1080p  
**CONNECTIONS:** HDMI v1.4; optical digital audio input; analogue stereo input; Ethernet port; 2 x USB ports; SD card slot; FM aerial input  
**SACD/DVD-A PLAYBACK:** No/No  
**DTS-HD/DOLBY TRUEHD DECODING:** Yes  
**POWER OUTPUT (CLAIMED):** 1,000W  
**DIMENSIONS (MAIN UNIT):** 47.7(h) x 46.0(w) x 265.4(d)mm  
**WEIGHT (MAIN UNIT):** 2.4kg  
**FEATURES:** DLNA media streaming; Viera Connect smart portal; 3D Cinema Surround; iPod/iPhone playback via USB; Theater Remote app for iOS & Android; USB/SD card media playback; 2D-to-3D conversion; FM radio; H.Bass; Whisper Mode Surround; Centre Focus; picture presets; noise reduction; Chroma Process; Detail Clarity; Super Resolution; LincSD amp

### HCC VERDICT

#### Panasonic SC-BTT460

→ £350 Approx → [www.panasonic.co.uk](http://www.panasonic.co.uk)

→ Tel: 0844 844 3852

**HIGHS:** Smooth, dynamic sound quality; excellent BD pictures

**LOWS:** No 4OD, Demand 5 or ITV Player; no built-in Wi-Fi; no HDMI inputs; uninspiring speaker build

Performance ★★★★★

Design ★★★★★

Features ★★★★★

Overall ★★★★★



# AV at a premium

Bang & Olufsen's new 40in set startles **John Archer** with its more-than-£5,000 price tag. Thankfully, it also startles him with its picture and sound quality



**WHILE BANG & Olufsen** products are extremely expensive, they're also generally world-class performers. And the brand's new BeoVision 11-40 40in TV – starting price £5,250 – continues that high-quality trend.

The TV boasts an iconic monolithic design, which finds the screen actually only occupying around two-thirds of the TV's height. The bottom third is given over to an unprecedented audio system comprising multiple Class D amps and an array of eight drivers.

The whole monolith is wrapped around with a thick chrome frame, and can be attached to various mounts, including a wall bracket and a mechanically rotating floor stand. You can also choose colour options for the main chassis and the felt speaker cover.

Other key features include the facility to connect up to 10 external speakers, and an audio processing 'brain' that supports pretty much every surround sound format. You can even establish up to nine different zonal arrangements for your speakers.

The BeoVision 11-40's Smart TV features are less exciting,

though. Multimedia playback from USB sticks and networked PCs is fine, but online services are limited, with only the BBC iPlayer, Euronews, iConcerts and YouTube standing out.

The BeoVision 11-40 is Active 3D-capable (though you get no free glasses), and sports an automatic picture adjustment system hand-tuned by a bevy of B&O picture experts. This human input pays off, too, as the automatic picture adjuster produces some gorgeous images.

The starting point to these is a terrific black level response. During the night scene in *Life of Pi* before the luminous whale erupts from the sea, the darkness is richly rendered, with practically none of LCD's rogue greyness. This blackness provides an impressive foundation for the set's colours, so that when the whale does emerge it's a spectacular sight.

The edge LED light-handling retains plenty of punch in the bright parts of predominantly dark pictures, and the colour boldness helps *Life of Pi*'s daytime ocean footage look suitably ravishing, especially as B&O's eye for the finer things in life ensures there's oodles of subtle colour information. The screens also shows an astute appreciation for sharpness, always delivering fine details but never pushing it so far the picture becomes noisy or uneven.

Minor problems are occasional and subtle backlight clouding, especially while watching 3D, and some marginal motion blur – again with 3D. Despite that, the stereoscopic encode of *Life of Pi* looks great overall. Strong contrast and sharpness help delineate an impressive sense of depth, and detail is largely unsullied by crosstalk ghosting.

Sonically the BeoVision 11-40 is spectacular. Its remarkable speaker array thumps out levels of volume, bass, treble detailing and mid-range openness you won't have heard from a TV before.

Sure, this is expensive, and I feel many would rather spend so much money on a bigger screen, but considered on its own merits as a TV, this B&O is nothing short of outstanding ■

## SPECIFICATIONS

**3D:** Yes.  
**FULL HD:** Yes. 1,920 x 1,080  
**TUNER:** Yes. Freeview HD  
**CONNECTIONS:** 6 x HDMI; 2 x USB; headphone jack; Ethernet; Scart; 5 x 2-channel 'powerlink' sockets  
**SOUND:** 256W combined  
**DIMENSIONS (OFF STAND):** 891(h) x 964(w) x 40(d)mm  
**WEIGHT (OFF STAND):** N/A  
**FEATURES:** Built-in Wi-Fi; multiple design and mounting options including motorised, rotating floorstand; USB multimedia playback, DLNA playback; BBC iPlayer, YouTube; Intelligent picture optimisation circuitry; huge range of external speaker options

## AV INFO

**PRODUCT:** Designer 40in TV with audio chops

**POSITION:** The BeoVision 11 range is B&O's top-level LCD series

**PEERS:** Loewe Individual Compose; Samsung UE40F8000; Panasonic ZT65

## HCC VERDICT

**B&O BeoVision 11-40**  
 → From £5,250 Approx  
 → [www.bang-olufsen.com](http://www.bang-olufsen.com)

**HIGHS:** Outstanding 2D pictures and very good 3D pictures; gorgeous premium design and build; unbelievable sound quality and sonic flexibility  
**LOWS:** It ain't cheap; not enough Smart TV online services; occasional minor backlight clouding in the corners

Performance ★★★★★

Design ★★★★★

Features ★★★★★

Overall ★★★★★



# Sealed with an LFE kiss

**Adam Rayner** finds US subwoofer brand SVS offering something a little more manageable than its famous towering bass-bins – and likes it

**SVS WAS ONCE** famed for making subwoofers only for lonely nerds who could get away with standing a bass tube bigger than their girlfriend in the corner of the room. Mostly because they didn't have a girlfriend. And, while it does still make those bonkers bassmakers, SVS also offers two other forms of woofer – smaller and more cubical large-performance ported items and a series of compact, sealed woofers. The SB-1000 is from the sealed series and is SVS' idea of as small as any sane person could go, bass-wise.

The sub is just over a cubed foot of neat round-edged box, with a rubbery 12in driver in the front and an amp panel on the back, called an STA-300D. It's a very hard to upset DSP-controlled 300W powerhouse. In fact, it hits at least as hard as some other brands' half kilowatt amps. It could be that the driver itself is very efficient – it's certainly fast, as it has a lovely bass grip and impact.

The box is a bit of a function-breeding form item and, apart from the curved edges, there is little remarkable to see. The grille is solidly made and powder-coated. When it's removed it reveals the blue LED 'on' indicator.

Its small size means the sub can easily be tucked away, but you may want to experiment as its output really is colossal and varies depending on placement.

For setup you get three knobs – level, crossover and a sweepable phase, plus a switch for 12V trigger switching or

SVS' sub squeezes a 12in driver into its small cabinet

auto power options. In standby mode, the SB-1000 draws only 0.5W.

## Rich bass

Performance is revelatory. There is a definite familial sound of rich, girthy bass. Not as pure as a Bowers & Wilkins DB1 or high-end REL, but this is a small, affordable box. It can reach very far down due to the flexible driver suspension and iron grip of its 'Sledge' amp.

I spun up some bass music from the low-end specialist Bass Mekanik and the SVS loved it. Not a query, nor waver. It's rated at -3dB to 24Hz, so is relevant at -9dB at what? Ten cycles? Basically, it can drop.

On a slightly saner note, *Bridesmaids* on Blu-ray found the SVS equally adept. The music in the track is writ large and the cute sub easily kept up with my large, floorstanding speaker system. The car crash sequence, followed by a redneck driving off in his V8, really thumped, then rumbled.

Overall, this is ridiculously good for the size and the price. Not only can it do the hooligan stuff but it is melodic and musical, too. It's a tremendous performer and a real contender for those seeking high capability with a good domestic acceptance factor ■

## SPECIFICATIONS

### SVS SOUND SB-1000

**DRIVE UNIT:** 1 x 12in with FEA-optimised motor and large rubber top roll suspension

**ENCLOSURE:** Sealed

**FREQUENCY RESPONSE:** 24Hz-260Hz +/- 3dB

**ON BOARD POWER:** 300W RMS Class D 'Sledge' amplifier

**REMOTE CONTROL:** No

**DIMENSIONS:** 331(w) x 331(h) x 331(d)mm

**WEIGHT:** 12.25kg

**CONNECTIONS:** Phono in and out; speaker -level input via binding posts



## AV INFO

### PRODUCT:

Compact, sealed 12in subwoofer with 300W amp

### POSITION:

Entry-level in the SVS range

### PEERS:

B&W ASW 610; Velodyne Impact 12; Monitor Audio Radius 370HD

## HCC VERDICT

### SVS SB-1000

→ £500 Approx → [www.svsound.com](http://www.svsound.com)

→ Tel: 01423 358 846

**HIGHS:** Easy to set up, easy to house; compact design with a rich output that sounds bigger than the box

**LOWS:** The user manual is a basic sheet to save a buck; we'd prefer sharp spikes as well as rubber ones

Performance ★★★★★

Design ★★★★★

Features ★★★★★

Overall ★★★★★



## Downmarket delight

**Adrian Justins** is surprised by Toshiba's budget 'bar

**DINKIER THAN A** corgi dog and looking less refined than a crate of raw sugar beet, in soundbar country the SBM1W is more Margate than Monte Carlo – and with just 40W of power, plus the 20W wired subwoofer, in home cinema terms the SBM1W is almost an irrelevance. But many of us have second screens that need a sonic supplement, a role well suited to the SBM1, especially as it manages to exceed expectations. For a start, unlike models costing twice as much (eg from Orbitsound and Samsung), it has both optical and coaxial digital inputs, making it well suited for hooking up, say, a screen and a Blu-ray deck. And, in addition to stereo phonos and a 3.5mm line-in, it can accept compressed audio wirelessly streamed over Bluetooth.

The bar can't be wall-mounted but it does fit easily in front of most screens with a switch to compensate for off-centered positioning. Operation using the small remote or the basic onboard controls is slightly

hampered by the lack of display and ambiguous nature of the status LED. There are four DSP modes to play with.

Performance is superior to regular built-in TV speakers and is consistently decent from all types of sources, including daytime TV, movies, music and sport. During the assault on the big tree in *Avatar* dialogue lacks a bit of detail, but the tonal balance is good, especially the integration with the subwoofer. Less cacophonous soundtracks have a pleasing clarity, although the soundfield is narrower than wider bars. This affects music more than TV and movies, when you're more likely to sit off axis. Despite this, Toshiba's gizmo is worthy of your consideration ■



The soundbar is narrower than most and should be easy to install

**HCC VERDICT**

Toshiba SBM1W → £150

Overall ★★★★★

ONKYO ES-HF300 → Approx £180

## We've been expecting you, Mr Onkyo

The Japanese AV corp's debut headphones were worth the wait, says **Benny Har-Even**

**BUCKING THE TREND** of much of the tech industry, the headphone market has seen a stellar rise in recent years and everyone wants a piece of the pie. No surprise, then, that AV receiver supremo Onkyo has joined the fray.

The ES-HF300s sit atop its range, but are keenly priced at £180. The design is clean and the styling modern, and the plastic construction makes for a lightweight, comfortable set with cushions that sit over, rather than on, the ear.

The 'phones come complete with an 'audiophile grade' oxygen-free copper cable, which is also detachable and usefully tangle-resistant – but the fact that there's no lengthy cable with



phono adaptor indicates that Onkyo is aiming at the portable rather than movie market.

That's a shame as listening to the opening salvo of 2009's *Star Trek* on Blu-ray, the soundstage is impressively expansive, convincingly conveying the majesty and the mayhem of space.

On the music front, with the HF300s Onkyo says it's aiming for a more accurate sound than the bass-swamped approach of the likes of Beats by

Dr Dre headphones, and in that it certainly succeeds. The lines of McCartney's bass-playing on The Beatles' *Rain* can be picked out in all their intricacy, and the mid-range details in dense productions such as the track *Behind the Mask* from Michael Jackson's posthumous album are effectively retrieved.

The sound veers towards bright and clear and lacks the warmth you get from the similarly priced B&W P3s, but for me the Onkyo's detail retrieval and controlled bass is more impressive. The lack of smartphone in-line controls may put off some, but at the price, these come highly recommended ■

**HCC VERDICT**

Onkyo ES-HF300 → £180

Overall ★★★★★

Lightweight, comfortable, bit plasticky...



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# Accessorize me!

## Networking solutions

Getting your networkable AV gear online is becoming easier, thanks to a plethora of new technologies. But which are plug 'n' play and which are plug 'n' pray? **Steve May** gets connected

**PRETTY MUCH EVERY** new bit of home entertainment kit you'll buy these days is networkable. It's the way of things. Whether for cloud content access, Catch-up TV and YouTube streaming, online gaming or local network playback from a PC or NAS, cutting-edge products expect to be networked.

Of course, getting it all online is often not quite as simple as you'd like. Few of us have Ethernet pre-wired, and while big-ticket items increasingly boast Wi-Fi built-in, this isn't always the best way if you want to stream HD. Thankfully, there are a variety of versatile solutions available that allow you to network

and stream video in surprising ways, and for a relatively modest outlay.

Powerline has long been a popular option. Sending data around the ring main seems

'Few of us have Ethernet pre-wired, and Wi-Fi isn't the best option for streaming hi-def'

particularly well suited to AV, and now, as we see here, there are some intriguing evolutions of the technology – some more successful than others.

A novel alternative is to use your aerial coax cable for networking. The Multimedia over Coax Alliance (MoCA) trade group has established a standard to funnel data atop your TV signal. Coax cable transpires to be a very robust conduit and is considerably less prone to the anomalies and spikes that electric circuits can suffer from.

So which networking solution will suit your network entertainment needs? Read on...

Approx £140 per pair → [www.ashcomms.com](http://www.ashcomms.com)

## Asheridge echoBox

Making use of your coax cabling!

**OFFERING A DIFFERENT** type of network AV solution to its Powerline rivals is Asheridge's echoBox. The company is best known for its professional IT products, but it also offers this little gem of a residential system. Based on the MoCA standard, the echoBox takes advantage of spare capacity within the coax cable to deliver 100/1000 Ethernet network

connectivity. These echoBoxes sell for £70 each. You'll need at least two – one to feed data into the chain and another to extract it. The units themselves are smaller than HomePlugs and well made.

The units combine an RF loopthrough with a Gigabit Ethernet port. While the coax cable carries your digital TV feed to your remote set in a bedroom or den, any network connection you plug in at the entry point is carried up as well. Crucially, this network feed does not interfere with traditional RF-based traffic. Ideally, the system would be used within a Freeview environment. Asheridge warns to stay clear of satellite delivery over coax.

Clearly this type of delivery system is perfectly pitched when it comes to feeding a Smart TV. While comparable to any HomePlug solution, it literally takes a different route. If you're already using a HomePlug network, adding Ethernet over coax as well may still be attractive as it doesn't clutter up your ring road with yet more traffic. The system is also considerably less prone to interference. While HomePlug could be affected by appliances, fluorescent lights and dimmers, shielded coax is, by and large, isolated.

MoCA technology is rated up to 200Mbps, with very little drop-off over distance. In reality, you'll achieve half that, but I had no problems streaming HD video files. Signal latency is rated at just 5ms, significantly less than HomePlug AV.

There's a simplicity to the echoBox which is beguiling. It's a solid option, depending on just how your aerial cable has been deployed.



The echoBox is neatly styled and easy to install

**HCC VERDICT**

Asheridge echoBox → £140 per pair

**Overall** ★★★★★



# Devolo dLAN 500AV wireless+

An affordable do-it-all solution

## COMBINING POWERLINE ETHERNET

distribution with integrated Wi-Fi, Devolo's dLAN 500 AV Wireless+ kit is aimed at those looking to connect both wired and Wi-Fi enabled hardware. This Starter kit comprises two units; the main transmitter which features a single RJ45 input, and a receiver which integrates three RJ45 switches. Combined, it's probably all you need to get an entire AV system online. Additional extenders are available for £90. As both plugs have an integrated electrical socket, you don't even lose a power point when installing the system.

In addition to its triple LAN output, the dLAN 500 is a dual-band 2.4/5GHz Wi-Fi access point, providing a wireless boost when the signal from your router may be flagging.

The system is rated at 500Mbps up to a distance of 300m. In Wi-Fi operation, it supports a theoretical maximum of 300Mbps. In practice both rates are certain to be far lower, but for HD streaming and multiroom

Handily, each plug features its own electrical socket

audio I found the combo to be entirely suitable.

Physically these plugs are roughly twice the size of regular HomePlug rivals, but are well built with internal noise filtering to stabilise bandwidth and encryption options for greater security. Software is supplied to monitor the performance of the system, and there's also a dedicated LAN cockpit app for iOS and Android. This also allows you to switch Wi-Fi functionality on or off.

Performance is excellent. The system streamed HD files across our network and provided internet access to a BD player, Smart TV and laptop without missing a beat. The Wi-Fi signal from the HomePlug has its own

SSID and password, which proved useful and presented no problems. Overall, this is a versatile and powerful networking solution that's easily recommended.

HCC VERDICT

Devolo dLAN 500AV wireless+ → £130

Overall ★★★★★



Approx £300 → [www.justhdmi.co.uk](http://www.justhdmi.co.uk)

# HDJuiceBox

Want to add Full HD video to the Powerline party?

**THE TWO-PIECE HDJUICEBOX** system utilises your ring main to deliver Full HD video and Ethernet. It comprises a transmitter, the PHDL-6985H-DX, and smaller receiver, the PHDL-6986H-DX. Both boxes are fairly utilitarian in design, but are robustly built. The transmitter has three HDMI inputs, as well as a local output, plus a LAN input. The receiver has single HDMI and LAN jacks.

Included in the box are HDMI cables, an IR blaster cable and eye, plus a remote. Installation is straightforward. The two units will handshake almost immediately when powered up.

Transmission doesn't significantly impact video quality. Material

played through with comparable definition and smoothness to the original source. However, bitstream audio doesn't survive the journey; only two-channel PCM is supported.

Unfortunately, the HDJuiceBox is sensitive to deployment. I ran the TX to an RX in an

adjacent room and was unable to maintain a link between the two – momentary pairing was followed by a loss of signal. I relocated to another room and met with more success. The units paired and initially the connection was stable; it did, however, drop for seemingly no reason. The best results came from when both boxes were running from the same double gang socket, hardly a practical solution. The trouble, of course, is that any buyers are unlikely to have any real idea how their own electrical circuitry is going to perform. When we had a stable connection between the transmitter and receiver, the Ethernet link worked without incident, extending coverage to our connected Smart devices. The system is fully compatible with standalone HomePlug AV Powerline extenders.

So, while I like the idea of jacking the ring main to deliver HD from HDMI, the results here are unpredictable.

HCC VERDICT

HDJuiceBox → £300

Overall ★★★★★



The HDJuiceBox comes with a credit card-style remote control



# ZyXel PLA4231

Useful as a Powerline extender or as part of a low-cost setup



ZyXel's gizmo extends an existing Powerline setup

**PRICED AT £50** or less, the ZyXel PLA4231 is the most cost effective step-up networking solution in our group. It's a versatile wireless/wired network extender for those that don't need all the bells and whistles of the more expensive Devolo package reviewed earlier.

The unit itself is neat enough, and combines a Wi-Fi access point with two 10/100Mbps RJ45 ports. It's used in conjunction with an existing Powerline system – possibly ZyXel's own bargain-priced PLA4201. With that parked near your router, the PLA4231 brings wired network connections to two components, perhaps a Smart TV and BD player, while simultaneously boosting the Wi-Fi reach of the existing network. It's both disarmingly simple and, if the wind blows in the wrong direction, utterly infuriating.

I installed the PLA4231 quickly, and immediately reaped the benefits. Should you need it, the unit supports WPS encryption, while data transmission is protected by 128-bit

Advanced Encryption Security (AES). Unusually, there's a local Power button, for those that want to minimize energy consumption. The maximum reach for both Powerline and Wi-Fi is said to be 300m.

Unfortunately, the supporting documentation is unrepentantly impenetrable. Clearly this is a brand that believes the only people using its products are IT pros. If you need to deviate beyond the simplified Quick Setup manual, the brand's downloadable manual offers no warm welcome. The system is backwards compatible with the 200Mbps HomePlug AV standard, but ZyXel maintains a 60 per cent improvement in performance with this 500Mbps iteration.

Overall, PLA4231 should be considered an inexpensive upgrade for existing Powerline users, or part of a low-cost starter system. It works well straight from the box, but if you need to dig deep, my heart goes out to you.

**HCC VERDICT**

ZyXel PLA4231 → £50

Overall ★★★★★

## Final standings

**ALL FOUR OF** our networking solutions will get your home entertainment system online, mostly without overt complication. The very best are literally plug, play and stream, so if you don't have a wired gigabit network to hand, they represent the next best option.

The most ambitious in our roundup is the two-unit **HDJuiceBox**. Combining HomePlug powerline technology with the ability to force Full HD between electrical sockets would seem a winning combination, and this dual functionality is reflected in its price tag. However, we unfortunately found the system just too unreliable to embrace fully.

The most cost-effective Wi-Fi/hard-wired networking option is the **ZyXel PLA4231** extender. This is a bargain if you already have a basic Powerline system up and running, and you can add ZyXel's £30 PLA4201 for a good-value 'starter' system. Ease of use, though, could be an issue, and the supporting documentation is heart-attack inducing.

The **Asheridge echoBox** is perhaps our surprise star. Ethernet over coax may seem like a slightly bonkers proposition, but it works extremely well, offering a stable isolated data connection. As a Smart TV solution it's terrific; installation is a doddle and the price tag is reasonable.

### Ticks every box

Finally, the most impressive of the quartet here is undoubtedly the **Devolo dLAN 500 AV Wireless+**. Combining approachable Wi-Fi, a three-port LAN switch and a passthrough power socket, this package ticks every box. Ease of use is high and, with the Starter kit priced at only £130, it's a bit of a bargain, too.







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# DIGITAL COPY

**Mark Craven** is taking a break from watching explosive blockbuster Blu-rays to reacquaint himself with his music collection

**RECREATING THE CINEMA** experience at home is, obviously, the goal of any home cinema enthusiast. Essentially, we're striving to get our domestic setup as close to that of the Empire Leicester Square as possible. Or failing that, just to create an environment where we can enjoy watching movies, with first-rate audio and visuals, without the need to pay someone £3 for a half-litre of Diet Coke.

Yet the beauty of assembling a home cinema is that it brings other benefits, too. Console gaming, for instance, is immediately improved, because **fragging one's way through the latest slice of *Call of Duty* is so much more fun when writ large and loud.**

(My colleague The Beek is spending so much of his spare time engrossed in his Xbox 360 that his hands are almost permanently locked into a controller-ready claw.) And dedicated rooms, as we've seen in some pro-grade installations featured in *HCC*, can even take on extra lives as home gyms and panic rooms.

And then there's music. A multichannel AV setup, by default, gives you a platform for spinning some tunes. And this is something that I'm beginning to savour more and more.

## One step at a time

Rest assured, I'm not turning into a hi-fi buff. While I can certainly see the attraction of a pristine two-channel setup using diamond-encrusted speaker wire and a £100,000 turntable, I'll always opt for the extra speakers and massive telly, thanks, and I'd need to establish at least an 11.2 array before I even began thinking about investing in an outboard DAC. On the other hand, as someone who grew up listening to music through a variety of awful products, from a cassette Walkman to an MP3

player, the fact that I can now listen to quality stereo/multichannel audio in my living room makes me happy.

At its most basic, my passion for music consists of playing my CD and digital music collection via my cinema setup at ludicrous volume levels. Loud enough, in fact, to create a pseudo 'multiroom system' by simply leaving all the doors in the house open. Yet at the same time, I'm becoming more choosy where quality is concerned, and have found myself listening to music that I wouldn't normally bother with (jazz!) just to hear the benefits of a well-recorded, lossless track in comparison to an iTunes rip. Maybe I'm a hi-fi buff in the making.

So now I'm looking for content, and this is where the whole adventure begins to unravel. As a film fan, my life is straightforward. I think of a movie I want to watch, and then I buy it on Blu-ray. This works fine for practically all new films, and the drive to release back-catalogue content in hi-def means most of my long-term favourites are available on BD, too. Music is more complicated, unless you want to feast solely on a diet of Pink Floyd, Dire Straits and Beethoven, particularly if you stick to the realm of physical formats. Can I be the only person a bit miffed that AC/DC's *Back in Black* has never had an SACD or DVD-Audio release?

It seems downloads are the way to go where lossless music is concerned, but this is such a fragmented environment I'm left pulling out my few remaining hairs. Do I have time to browse dozens of websites, from all over the globe, just to find tracks to purchase at £2 a pop in FLAC? Currently, no. So for now, I think I'll just stick to cranking up the volume of my CDs... ■

Does your home cinema double as a hi-fi setup?  
Let us know: email [letters@homecinemachoice.com](mailto:letters@homecinemachoice.com)

Despite no longer owning any form of cassette player, **Mark Craven** can't bring himself to throw away his tape collection – especially the *Batman* OST







# FILM FANATIC

A recent documentary has thrown up a new wrinkle in the photochemical vs digital cinema debate. **Anton van Beek** is starting to worry about the future of film archiving...

**LAST ISSUE I** had the pleasure of reviewing Axiom Films' UK DVD release of the documentary *Side by Side*. A must-see for any serious film fan, Christopher Kenneally's superb doc explores the pros and cons surrounding the move from photochemical to digital filmmaking, through interviews with an impressive array of Hollywood big shots including James Cameron, George Lucas, Christopher Nolan, Martin Scorsese, Caroline Kaplan and Lorenzo di Bonaventura.

Over the past few years I've written numerous news reports and occasional features for *HCC* extolling the wonders in film presentation and restoration made possible by developments in digital technology (Oh look! There's another one on p28 of this very issue). As such, it's hardly surprising to learn that I went into *Side by Side* ready to nod my head along to the wise words of those who have embraced digital (like David Fincher) and mutter under my breath at those who still rail against the change (I'm looking at you, Christopher Nolan).

And that's roughly what happened – until the final 10 or 15 minutes. Then I was confronted with an issue that hadn't really thought about. How exactly will the move to digital affect film archiving, and is content really safe when stored in this form?

## Ticking time bomb

At this point I'd like to quote what cinematographer Geoff Boyle has to say on the subject in *Side by Side*: 'Nobody takes archiving seriously. They say "Oh, I'll save it on a hard drive," and then they put the hard drive on a shelf and a year later they load it and it goes "Tick. Tick. Tick". Because they stick. If you don't fire them up all the time they stick. If you do fire them up all the time they wear out and go "Tick. Tick. Tick".'

Boyle isn't alone in his concerns. While it's no surprise to find Christopher Nolan claiming that 'there are no archival formats worth anything in the digital realm that you would put any stock in', it is a surprise to find digital fan David Fincher worrying about whether or not current digital file formats will be compatible with future technologies.

The potential for format incompatibility is a ticking time bomb when it comes to archiving films in a digital format. As Michael Goi (President of the American Society of Cinematographers) also points out in *Side by Side*, **more than 80 video formats have been used since the advent of commercial television in the US and the majority of them can no longer be viewed because the kit needed to play them doesn't exist anymore.** So how can the industry ensure that a similar thing won't happen with digital archiving?

The obvious solution then is to archive content both photochemically and digitally – something that all major studios currently undertake. After all, there are no format incompatibility issues with film. No matter what the film stock might be, you only have to shine a light through it to be able to see what's stored on it. And it certainly doesn't hurt that it's proven that film can last for the best part of a century, under the right conditions – something that nobody can safely guarantee for any existing digital technology.

But, with the shift to digital filming, workflow and distribution causing companies like Fujifilm and Kodak to wind down the production of celluloid stock, you've got to wonder what will happen when film is no longer available as an option at all... ■

Where do you stand on the digital filmmaking debate? Let us know: email [letters@homecinemachoice.com](mailto:letters@homecinemachoice.com)

**Anton van Beek** is stockpiling as much celluloid as he can get his hands on, so he can make a killing selling it to Hollywood studios in the future







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# Feedback

Got an axe to grind? Need to comment on current technology? Want to share your knowledge with our readers? **HCC** is here to help

## Old, but still got it

Your request for other Denon A1UD owners to write in [we actually said 'owners of dedicated DVD decks.'... – Ed] prompts me to send details of my current system, which has been 60 years in the making. Centre piece is the superb A1UD, bought after your review as a very high quality one-box solution to playing all disc formats.

I have been a fan of Denon and ATC for many years, as both companies have first-class service facilities. I found my ATC speakers after blowing up a pair of KEF 105s playing the Telarc Edition *1812 Overture*. The hub of the main system is the highly flexible and very clean-sounding Denon 4810 processor, again brought after your review. ATC 100s are used for



**Oppo's BDP-95EU – 'an excellent player and amazing value for money'**

the left and right channels, with an ATC C6 centre, ATC SCM12 rears and an ATC 1,000W sub completing this mainly classical, and pop/rock music SACD and Blu-ray setup.

Again after your review, whilst the A1UD was in for an upgrade, I installed the Oppo BDP-95EU. This is an excellent player and

amazing value for money. It gives a slightly leaner sound than the A1UD, which is very useful given that their are no recording standards in any of the current disc formats. There is nothing to choose between the picture quality of either disc player.

My TV is a Panasonic 55VT30. I am waiting for more info on

Panasonic's ZT65 before deciding whether or not to upgrade. The only dedicated stand I could find that will take the weight of the heavy ATCs is from Hi Fi Racks Limited. I use Chord Cables.

In the dedicated extension to our flat we are able to recreate concert hall quality, without the coughs and clapping between movements!

*Ted, North West London*

## ★ STAR LETTER...

### 4K is years away from becoming mainstream

In response to the letter in the last issue about waiting for a 4K projector around the £5,000 price point, I agree with John Archer that it will be at least four or five years before 4K goes mainstream. More likely even longer than that. The reason for this is simple – not enough people know what it is or will be able to afford it. Samsung's 4K TV is on sale for £35,000. Hardly a mainstream product, is it?

There are still people (not us, of course) who struggle to understand the benefits of Full HD. They are definitely not ready for another format.

Full HD TVs are now commonplace but they were first released nearly a decade ago. That's how long it takes for something to become mainstream.

As for projectors, the current price of a 4K projector is £17,000. As John Archer says, maybe new cheaper models will be announced later this year. But even if they are, I doubt they will be under £10,000, let alone

£5,000. Why would the manufacturers rush to release cheaper hardware if people are prepared to pay more for it? I can see 4K TV prices dropping but that will be because of competition. I don't think there is as much competition in the projector world. *Cameron, via email*

**Mark Craven replies:** I'll admit that when I first saw that Samsung's 85in S9 UHD TV was on sale (in Selfridges naturally) for £35,000 I nearly fell off my seat, as that is comfortably £10,000 more than its 84in LG and Sony rivals – which seems a lot to pay for the 1in size

difference. This is clearly a case of Samsung deciding that some people will be happy to pay that much.

At the other end of the size scale, 4K TVs will be much more affordable, and we hope that eventually projectors will be, too.

Not much competition in the projector market? At the higher price points you are probably right, but there's a lot of choice below the £3,000 mark. This is where 4K projection needs to get to so we can all enjoy it!

Star letter-writer Cameron wins a copy of *Mama* on Blu-ray courtesy of our pals at Universal Pictures. Starring Jessica Chastain and produced by Guillermo del Toro, this terrifying paranormal thriller will be scaring up a storm on Blu-ray, DVD and Digital Download from June 17.







British drama series like *Sherlock* are part of a wider resurgence in quality TV

Mark Craven replies: Thanks for the letter, Ted and we're glad to hear you're still enjoying the Denon player. Although it's only three years old now, it feels like a life-time ago that it launched – especially when you look at the original price tag (£4,500) and sheer size of it!

Personally, I miss those sorts of no-nonsense 'reference' Blu-ray players, and hope that, if we ever get a 4K disc standard, we can look forward to some equally over-engineered high-end decks.

As for the 'Beyond reference' Panasonic ZT65 plasma, we'll be reviewing that in our next issue – and hoping that it's as good as it's designed to be.

### Brit TV is booming

Last issue's roundup of TV

#### CONTACT US...

Write to HCC, AV Tech Media Ltd, Hadlow House, 9 High Street, Green Street Green, Orpington, BR6 6BG, or email us at [letters@homecinemachoice.com](mailto:letters@homecinemachoice.com)

Please note: we cannot guarantee to print/answer all the letters we receive. Sorry.

boxsets was interesting, but I'm not sure you can call *Sons of Anarchy* a 'secret'. It's always being advertised on TV.

More importantly, did you deliberately not include any British shows? All of them came from the US or elsewhere in Europe. Personally, I think TV drama series in Britain have improved considerably over the years, with the likes of *Life on Mars*, *Sherlock*, *Merlin* and the recent *Broadchurch*. They may not have the same budgets and all-star casts as American programmes but there's still a lot of well-written, well-made TV in this country.

Trevor, via email

Anton van Beek replies: There wasn't any deliberate intent to ignore British shows – we were simply spotlighting some of our favourite programmes that we believe many people won't be familiar with, and that always meant they were likely to be from other countries.

We agree that there are plenty of great programmes being made in the UK, including the drama shows you've mentioned. We live in a 'Golden Age' for TV in general, with movie actors/writers/directors now far more

likely to consider working on the smallscreen than they were 10 or 20 years ago – hence you get the likes of Martin Scorsese producing *Boardwalk Empire*.

### User experience counts

I am an avid reader of *HCC* and love the magazine, but I have found a section that should be added, and that's equipment experience. This may seem a little silly but I believe these things need to be taken into account when giving ratings to products.

I recently needed a second media player for my kids, and since A.C. Ryan seems to be no more, I decided to take your advice and bought the Crystal Acoustics Media Matchbox from Amazon. Took it out of the box, really nice piece of kit, turned it on, got the logo, then a blank screen. Switched off, then on: logo, blank screen. You see the pattern here!

So I returned the unit, and got a replacement (well, I got money back and bought another). Opened it, plugged it in, glitchy as hell. Sometimes it would work, a lot of the time, it wouldn't. Now I will put my hand up and say its customer services is good, but does this really deserve top spot in your Top Ten Media Players?

On to my second problem. I recently bought a 51in Samsung (against my better judgement) plasma from Pixmania. I got it home, put it on the wall and discovered it had no manual. No problem – I'll download one...

On their website my model was not there. Therefore I can not send them an email. Why? Beats me. So I phoned, and a voice said that they would endeavour to answer my call in three minutes. Twenty-five minutes later, I lost the will and hung up.

I eventually contacted customer enquiries by picking a TV with a close serial number, and then stated this was not my TV, but here is the serial number. And, oh my, the incompetence! Whoever was on the other end was reading from a book of answers; he didn't even address the fact I asked where I could get a manual from until the fourth time. I was told it was a French model, and would be on their website. Now I don't speak French, but a friend of mine does, and guess what, it wasn't on that site either! This is a manual, why can't I get one?

Eventually I tracked down a manual for a similar model (the last two digits were



different), and emailed to ask if this manual was the same for my TV. That took two emails alone just to get 'Yes'.

Why should we, the customers, have to put up with such rubbish? Why could they not send me a manual? It's a simple thing. If they have to scrape money that badly, fire the customer service reps as they are totally useless.

Also, my grandmother has a Samsung, with no idea how to use a computer – how is she supposed to get a manual? Come on Samsung!

Yours, hoping companies like these fold so good companies can flourish...

Michael, Ireland

Mark Craven replies: If you're waiting for Samsung to 'fold' I wouldn't get your hopes up – I have an inkling the Korean brand is going to be around for a while...

You do raise an interesting point about manuals. It's a pet hate of mine if a hardware product doesn't come with the



supporting documentation to tell you how it works. I also get a bit annoyed, though, if it comes with too much – I don't need the manual in 12 different languages!

I've seen TVs in the past with manuals on CDs, or user guides lurking in the setup menus, but never of a product arriving with no manual whatsoever (surely it had a Quick Start guide?). And a recent Samsung Series 7 LED arrived with a full paper manual, so perhaps your plasma is a one-off specific to the models stocked by your retailer.

#### Freeview is laughable

I read the piece about the end

of the BBC HD channel (Retro, HCC 221) and I'm so glad I don't use Freeview.

It's laughable that when the BBC wants to launch an HD version of BBC Two it has to close down the BBC HD channel to make space, and leave shows from BBC Three and BBC Four with no HD platform. As a Sky subscriber, though, I'm not too bothered, as I have plenty of other HD channels to choose from, including movies, sports, news and entertainment. But Freeview customers only have four channels. And, as you point out, this is six years after the HD broadcasts first launched –

**Sky – more HD than you can shake a stick at. But you have to pay for it**

shouldn't there be more by now? HD was supposed to change the way we watch TV, but everyone with Freeview is getting standard-definition a lot of the time!

Anthony, via email

Mark Craven replies: It's easy for pay-TV subscribers to be critical of Freeview (and Freesat's) HD channel lineup – I've done it myself – but it's always important to remember that it is, well, free. Nor is it the BBC's fault that the DTT platform cannot accommodate more HD.

## Win! Three great Blu-rays up for grabs

Just email your answer to [Competitions@homecinemachoice.com](mailto:Competitions@homecinemachoice.com) to be in with a chance



### Zero Dark Thirty

To celebrate the June 10 UK DVD and Blu-ray release of director Kathryn Bigelow's acclaimed cinematic account of the hunt for Osama bin Laden,

Universal Pictures has given us five copies of the *Zero Dark Thirty* Blu-ray to give away to some lucky HCC readers.

#### Question:

Kathryn Bigelow also directed which other award-winning war film?

#### Answer:

**A)** Saving Private Ryan **B)** Apocalypse Now **C)** The Hurt Locker

Email your answer with '**ZDT**' as the subject heading – and include your postal address!



### Bullet to the Head

Sylvester Stallone goes back to basics as a hitman out for revenge on the man who killed his partner in Walter Hill's old-school action film. *Bullet to the Head* hits

Blu-ray and DVD in the UK on June 3, courtesy of EntertainmentOne, and we've got five copies of the Blu-ray to give away.

#### Question:

Sylvester Stallone was once married to which '80s action star?

#### Answer:

**A)** Chuck Norris **B)** Cynthia Rothrock **C)** Brigitte Nielsen

Email your answer with '**Bullet**' as the subject heading – and include your postal address!



### Futurama: The Complete Season 6

Good news everyone! Matt Groening's animated sci-fi smash *Futurama* is finally returning to DVD and BD in the UK. Thanks

to our friends at 20th Century Fox Home Entertainment we have five Blu-ray copies of *Futurama: The Complete Season 6* (available to buy from June 24) to dish out.

#### Question:

What is the name of the one-eyed captain of the Planet Express Ship?

#### Answer:

**A)** Leela **B)** Lilo **C)** Lulu

Email your answer with '**Futurama**' as the subject – and include your postal address!

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# REWIND

With Microsoft's Xbox 360 console soon to be demoted, **Mark Craven** heads back to 2005 when it first ushered in the era of HD gaming

**BY THE TIME** you read this, Microsoft will hopefully have taken the wrapper off its latest games console. Rumoured for a few years, and dubbed the Xbox 720 in the interim by eager fans, it may eventually hit UK shop shelves in time for Christmas. In the next issue we'll know for certain, but for now, we're looking back at its predecessor, the Xbox 360.

Launched in the Summer of 2005 in the US and in December of the same year over here, the Xbox 360 has become the firm favourite of home cinema gamers. Sure, its Sony PlayStation rival offers the better AV chops – most notably Blu-ray playback – but Microsoft's console has arguably had the stronger games roster. We'd all rather play *Halo* than *Gran Turismo*...

## Built for your living room

The Xbox 360 started a revolution in home consoles. From the very beginning, it was designed to be a home entertainment hub, rather than a mere gaming gadget. With that in mind, it was styled for living room use, binning, in the words of HCC's reviewer Rik Henderson, 'the geeky, unfriendly black behemoth look' of the original Xbox in favour of a curved, off-white design that could be installed either horizontally or vertically. Even the new controllers looked classy. USB playback, online gaming and home media streaming were also provided – the latter, we said, being 'the clearest example yet of Microsoft's intent to effect global home convergence via its Windows Media Center platform.'

In terms of connections, the Xbox 360 wasn't quite the cutting-edge device some may have hoped for. The original Core (sans hard drive) and Deluxe models offered no digital connectivity at all – hook-up to your TV was via cumbersome component output. It was only in 2007 that Microsoft added HDMI. The 360's analogue output did, however, provide hi-def up to 1080i – and, overnight, console gaming was

dragged into the modern HD Ready era, helped also by the unit's Dolby Digital 5.1 capability. Launch titles, like Rare's *Perfect Dark Zero*, dazzled with their AV presentation.

## Red Ring of Death

Not everything was perfect, though. One major problem that afflicted the Xbox 360 (apart from the lacklustre reception of its HD DVD add-on drive – see box out opposite) was its habit of crashing. And we're not just talking about a freeze that was easily fixable by rebooting.

The 'Red Ring of Death', as it came to be known, was much more serious, with the three-quarter illumination of the outer ring of the power button indicating a 'general hardware failure' that resulted in many owners having to send their beloved (and hardly cheap) console off to Microsoft for repair under its three-year warranty. And even more annoyingly, as many Team HCC members can testify, the same problem could easily occur again. A few years ago, it wasn't



## WHAT WE SAID THEN...

### A NOT JUST CHILD'S PLAY?

'So much more than a toy,' was our verdict on the Xbox 360. Its classy design, multimedia prowess and credible AV performance ensured it grabbed a Best Buy badge from reviewer Rik Henderson

### B PLASMA HEYDAY

Back in 2005, there were enough brands still releasing plasma TVs to organise a five-screen 42in shootout

### C SED? COME AGAIN?

In this issue we reported on the tech trends and prototypes kicking up a storm in Japan, including SED (Surface-conduction Electron-emitter Display) TV, the joint venture by Toshiba and Canon. It was eventually pronounced dead in 2010



## Game on for high-definition

Microsoft arrives with the first HD Ready videogames console. But it's so much more than just a toy. Says: Rak Henderson

0

### WE TESTED WITH...

#### PERFECT DARK ZERO

This Xbox 360 launch title served as a prequel to the hit



first-person shooter *Perfect Dark*. Visually it was a delight and the gameplay, both in single- and multiplayer modes, ensured we kept coming back.

## FAST-FORWARD

### HD DVD – Microsoft's failed gamble

DVD was already looking old when the Xbox 360 launched. Hi-def video playback standards had been talked about from as far back as 2000, and in 2005 it was known that two competitors, Blu-ray and HD DVD, were whizzing their way to market, and Sony had announced the PlayStation 3 would support the former. Yet Microsoft, already a member of the HD DVD Promotion Group, decided to not to include the latter in its new console, plumping for a DVD drive instead. As well as being a hammer-blow to the HD DVD camp, this decision didn't please AV-savvy consumers either. Going from hi-def games to standard-def movies was a step back.



The solution? Introduce a USB-connectable HD DVD add-on drive in 2006. Designed as a cosmetic match for its parent console, it retailed for an enticing £130, initially bundled with a copy of Peter Jackson's *King Kong*, and was the first HD DVD hardware available. We loved it (even though it refused to play CDs), but only two years later it was discontinued when the format bit the dust.

uncommon to find people on their third or fourth console – although reliability has since been greatly improved.

### Top of the charts

Despite these niggles, the Xbox 360 has been an undoubted success story for Microsoft, and its core gaming titles frequently break records (*Halo 3*, launched in 2007, sold over eight million copies worldwide, while *Call of Duty: Black Ops* from 2010 topped it with 12 million). And, like Sony's PlayStation 3 rival, it has managed to continually evolve, adding 3D support, motion-controlled gaming via the Xbox Kinect system and, last year, second screen interactivity courtesy of the SmartGlass app.

The only thing that hasn't evolved enough, however, is the Xbox 360's internal hardware – hence the forthcoming model. Hopefully, this will again prove to be an indispensable purchase for bigscreen gaming fans – even if, for some bizarre reason, it still doesn't play Blu-ray discs... ■





# Get ready for home networking

**Martin Pipe** loves nothing better than streaming media all around his house – and believes it's time for you to join in the fun

**ORIGINALLY, HOME ENTERTAINMENT** relied upon separate components designed for compatibility with specific content. A set-top box or PVR for digital TV, a disc player for CDs, DVDs and Blu-rays, a console for shoot-em up fun... Now, courtesy of the networking revolution, convergence is everywhere. Today's set-top boxes can access online content like BBC iPlayer and YouTube, many AV products feature dedicated portals to usher in alternative services like 'net radio, social media apps and web browsers, and most new Blu-ray players, TVs and games consoles can pull compatible content from devices on your home network. And if yours can do none of these things, you can buy inexpensive media players from the likes of Western Digital and Eminent. Or, as we reported recently, you can even build your own using a mashup of the Raspberry Pi computer and XBMC software...

The key draw to having everything networked, rather than embedded within physical media formats, is that, in theory, you need never hunt for a music track, TV programme or movie again. A few key presses, and it will stream across your

network from where it's stored to where it's needed. Every room with some kind of display or audio system could have its own network player. Expensive systems like those made by Kaleidescape brought such luxury to the well-heeled, but now even those on tightened budgets can join in. But you will need to put in a bit of effort to reach home networked utopia.

## Your network

Before you can get started, you will, of course, need to have a home network. Got one? Good.

For the best results, your media player/Smart TV/BD deck/whatever needs to be connected via a wired Ethernet cable to your network gateway router – the unit, often combined with a modem, that internet providers give you to share your 'net connection around the home. Now, these products support Wi-Fi – as do many playback devices, either as standard or via an optional USB dongle. Wi-Fi has

**'The key draw to having everything networked is that you need never hunt for a music track or TV programme again'**

its benefits, but for a whole-house AV setup, and sustaining the sorts of data rates associated with hi-def video, it's not ideal – especially if there's a lot of wireless activity in your immediate vicinity.

Going hard-wired all around your house, to all the numerous devices you might want to feed, is a bit of a chore. The simplest option is to use long runs of Ethernet cable, but you'll want to do this as surreptitiously as possible, and may need to add additional routers/network switches. An alternative is to use Powerline adapters, allowing data to be channelled via the existing electrical wires in your home. See page 74 for more.

## DLNA and Plug-and-Play

All modern home computers, running Linux, MacOS or Windows, are capable of sharing content with other devices on your network. There are two ways of doing this, and it is important to discriminate between them. The first is to install and run a

Media players like Western Digital's WD TV Live Hub are an affordable way to 'smarten up' an old TV





Kaleidescape's premium movie storage and playback solution is a firm favourite of custom installers



multimedia server program that supports the uPnP (Universal Plug and Play) protocol. DLNA (named after the Digital Living Network Alliance trade organisation responsible for it) is based around the uPnP protocol, supporting a minimum set of multimedia formats together with features like digital rights management (DRM). This server program sits in the background (so the computer can still be used to perform other tasks), and you tell the program what multimedia files – video, audio and images – residing on that computer should be made available. These libraries are then listed to any compatible playback device that requests it, and streams the chosen content on demand. The vast majority of media players, including Smart TVs and Blu-ray players, support uPnP/DLNA.

Server software is cheap or free; examples include the Windows Media Player that's bundled with the Microsoft operating system, Sony Homestream (MacOS/Windows, intended for the company's networked AV products but freely downloadable from Sony's website), the free cross-platform XBMC (which is also an excellent multimedia player in its own right), MediaTomb (MacOS/Linux-only) and PS3Media Server (cross-platform, but optimised for streaming to the Sony console).

Apple, being Apple, pushed its own standard (Digital Audio Access Protocol, or DAAP) instead of jumping on the DLNA/uPnP bandwagon. DAAP is employed by iTunes Server (until version 6) for networked multimedia; thankfully, DLNA-compatible

software (notably XBMC) will run on Macs, and XBMC and some other products support the Apple standard – useful for Mac users wishing to share their iTunes libraries.

DLNA/uPnP is widely supported by consumer electronics manufacturers and is very easy to use. Compatible products have a menu entry marked 'My Files' (or something similar), usually subdivided into music, video and photo options. It's then a case of selecting what you want. DLNA's problem is that somewhere between the server and the player compatibility with many file formats is lost. The core ones supported include MP3 and WAV (audio), DivX and MPEG (video) and JPEG (photos), but we frequently experience problems when trying to stream videos encoded in the popular MKV format, or audio losslessly encoded in FLAC. MKV is commonly used to distribute HD material via file-sharing networks, and that's maybe why so many users have run into trouble. Indeed, it's interesting that many DLNA-compatible products can play some of the 'forbidden' content provided it's introduced via a USB device. The less cynical would argue that these technologies were perhaps introduced after DLNA standards were finalised.

Some players are capable of supporting a different route that will result in better file support. Configure your computers to share folders on the network (the specific route depends on what operating system you're using) and the contents can now be accessed by some dedicated multimedia

## FILE FACTS – PART ONE

Common codecs and formats explained

### MPEG

The MPEG-1 codec, now obsolete, was used by VideoCD and some digital cameras. MPEG-2, which came later, underpins DVD and standard-def digital broadcasting. Has .mpg extension.

### H.264

This codec is employed for UK high-definition video broadcasting. Various forms underpin the MKV, MP4 (e.g., iPlayer/YouTube HD), FLV and DivX HD standards. It's also available in open-source form (x.264).

### DivX

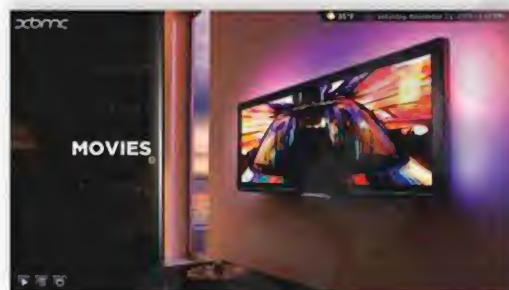
The original codec to offer high levels of compression with good video quality – it's said to be 'efficient'. Used for downloaded video. Has a .avi or .divx extension; usually accompanied by MP3 sound. Will work for SD and HD, although MKV has eclipsed it. XviD is its 'open source' equivalent.

### MKV

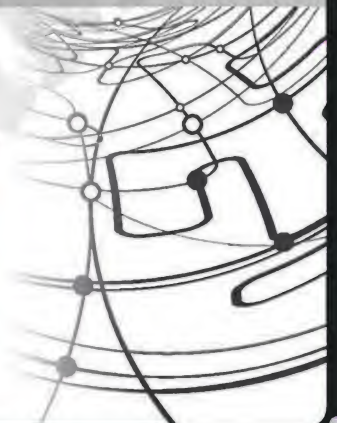
This accomplishes for HD what DivX did for SD – an efficient format that allows 1080p24 video to be 'squeezed' into small files. It's typically a 'wrapper' for H.264/X.264 video, accompanied by AAC or MP3 audio. Has the .mkv extension. DLNA support is not guaranteed.

### FLV

Adobe Flash video format. Employed by BBC iPlayer and YouTube for standard-def video.



The free, open-source XBMC software features a variety of skins to suit your tastes





## TIPS & TRICKS

Five things to bear in mind when running your network

### Keep up to date

Always ensure that your player is running the latest firmware. Doing so fixes bugs or adds new features. Most products will, if connected to the 'net, automatically update themselves, warn you that an update is available, or be 'forced' to check for updates via a menu option.

### Be organised

We recommend creating separate folders for video, music and photos – and in these place folders that subdivide the content by artist, movie type, occasion and so on. It makes browsing so much easier.

### Pay attention to security

Ensure that your router and PCs are running suitably configured firewalls to keep intruders away, and make sure that encryption is used for Wi-Fi connections. Disable SSID so that your network doesn't appear when 'outsiders' search for wireless networks. If Wi-Fi's not needed, turn it off.

### Lock it down

Wanna restrict access to children? DLNA supports a parental control feature, which can lock out specific files or whole folders. If you're using network folder sharing, unshare any folders containing content you don't want your kids to see.

### Stay wired

Wired Ethernet will give better results than Wi-Fi, especially if you live in an area with plenty of Wi-Fi networks and thus congestion. An alternative is to use Powerline networking to transmit Ethernet data at high speeds across your home's mains wiring. If you have no choice but to use Wi-Fi, consider switching from the default 2.4GHz band to the much quieter 5GHz if all your gear supports it.

players (notably many A.C. Ryan models), Linux digital TV receivers based around the Enigma 2 firmware and computers or Android/iOS devices running XBMC. These devices are compatible with these network file systems and can see files in the shared folders – just like the regular computers for which such systems are intended. A number of 'network filing systems', including NFS and SMB/CIF, are usually supported.

The problem with this approach is that you no longer have DLNA's friendly library-driven media categorisation. Anything in that folder will be shown, regardless of whether your player is compatible or not. Because you bypass DLNA's 'lowest-common denominators' and corporate politics, though, any content that falls within your device's capabilities (as listed on the spec sheet or website) is accessible. It's down to you to organise your video, music and other content sensibly so that you can quickly locate it.

A bigger disadvantage is that no products from mainstream manufacturers support this means of accessing shared folders. You might also need to take steps to restrict access to shared folders, not only to prevent Junior from watching material that he shouldn't, but to ensure that uninvited guests can't either. In short, you must ensure that the firewall built into your gateway router is operating. We also advise using Wi-Fi encryption, and turning off SSID ('Service Set Identifier', which announces the presence of your wireless network to anyone searching for networks in the immediate vicinity).

### Have a NAS day!

Using your computer(s) to store multimedia content has an obvious flaw – it will only be accessible for as long as the computer is switched on. A streamlined solution is to invest in a networked storage device – also known as a NAS (network attached storage). The average NAS consists of one or more hard drives, although some models can use USB sticks. Many NAS devices can be configured to use a system known as RAID (Redundant Array of Inexpensive

Disks). This spans your data across multiple disks, so that if one fails your data can then be 'reconstructed'. The penalty is that the overall capacity is reduced.

NAS has another advantage – it can also be used to store regular computer data (such as letters, spreadsheets and so on) thereby backing it up and safeguarding it against a computer HDD failure.

All modern NAS boxes sold for home use feature a uPnP/DLNA multimedia server application that's configured via a web interface – many also support

**'Content stored on your computer is only accessible when it's switched on – a NAS drive is a better solution'**

Apple's DAAP. Other features, such as a BitTorrent client and the ability to share files via the internet, are often provided. Manufacturers whose NAS products we've tested include Buffalo, Netgear and Synology.

A fully-loaded NAS can be quite expensive but, as we discussed in *HCC* a few years ago, it's also possible to convert an old PC into a NAS using a downloadable Linux program called FreeNAS ([www.freenas.org](http://www.freenas.org)). HP sells a fairly inexpensive ProLiant 'microserver' that is ideal for NAS conversion.

Once you have a NAS installed, it's easy to copy the desired files from your computer's folders to the NAS' own storage via your network. This is obviously not as fast as it would be via, say, USB and so if you have a lot of content it's worth performing this transfer on an overnight basis. But how do you get your media into the required file form in the first place? Here we enter into a legal quagmire, and your actions are down to personal conscience...

### Content conundrums

Free-to-air digital TV programmes/films and most

NAS devices range from slim-line living-room friendly models like Buffalo's ITB LinkStation (left) to multi-bay offerings like QNAP's TS range (right)







CDs don't represent that much of a challenge, as they're not encrypted. If you want TV programmes in a form that can be shared across a network, our advice is to purchase a digital tuner for your computer. These come with software for recording programmes to a PC's hard disk, usually in a format that most media players can understand and usually with timer support.

Excellent picture quality is assured, as the tuner captures the 'raw' audio and video information as broadcast – no conversion takes place. You can then transfer your recordings to a NAS to stream around the house at your leisure. (Still on the subject of telly, note that few of the specialist multimedia players support BBC iPlayer and similar UK on-demand TV services; these are the province of the big brands, which, as discussed earlier, stick with DLNA multimedia support).

CDs can be ripped to your computer using iTunes, or free software like Exact Audio Copy ([www.exactaudiocopy.de](http://www.exactaudiocopy.de)). Both of these programs can be set to compress audio – trading space against sound quality – according to your preferences. Exact Audio Copy works with external software to compress audio using MP3 or FLAC. Digital radio programmes captured with a PC tuner use the mp2 format, which is supported by most multimedia players.

But what of DVDs and Blu-rays? After all, these are what you're most likely to want to archive for home streaming. Well, strictly speaking, it's illegal to crack the encryption systems used by these in order to obtain a file that can be streamed from your networked storage to multimedia players. However, those who believe that they have the right to view content they've paid for on the devices of their choice will find ripping software widely available online. Encryption has, however, been modified over the years to make ripping difficult, and there's no guarantee that the software you're using will give you a pristine copy that will play with no glitches. Specialist networked multimedia players will often play bit-for-bit .ISO ('image') rips just like the original media. That means you get menus, special features,

#### **iMERGE's high-end MSI media server offers an eye-catching GUI for browsing stored music content**

subtitles and multiple soundtracks, providing you with no-compromise access to your film library. You'll need a lot of storage space, though.

There are alternative routes to streaming films. Most obviously services like Netflix and LoveFilm, but these do, of course, require a subscription. You might prefer to make use of the digital copies that are now widely offered with your BD and DVD purchases, although typically for the home cinema industry, this is a system mired in confusion. For instance, Bond fans who bought Fox's *Skyfall* on Blu-ray get a 'PlaysAnywhere' copy of the film on the DVD. This is unlocked with a unique activation code provided in the case to give you an SD version. However, buyers of 20th Century Fox's *Taken 2* Blu-ray are provided with an UltraViolet copy, which is stored on a cloud server and currently only playable via the Flixster media player app. And, again, it's standard-def only. However, some other studios (notably Universal) have begun offering HD digital copies on certain titles.

While the DRM used by both of these systems is compatible with a number of computer software players and devices – including tablets, smartphones, iTunes, Smart TVs, Blu-ray players – some net-enabled products won't play ball. So take phrases like 'PlaysAnywhere' with a pinch of salt... And Ultraviolet in particular just doesn't yet have the hardware support in the UK to be considered a serious option for bigscreen film fanatics. Indeed, you may just end up finding it easier to resort to the old-fashioned method of putting a disc in a player...

#### **Convenient access**

Despite niggles like these, networked AV is a great addition to your setup. At its simplest, it's a convenient way to access all your own photos, home movies and music from the comfort of your sofa, plus the additional goodies available from the Cloud. With a bit more effort, you can add your film library, too. You'll soon wonder how you lived without it ■

## **FILE FACTS – PART TWO**

Common codecs and formats explained

### **MP3**

The original high-quality audio codec that revolutionised the music industry. It's 'lossy' and supported almost universally.

### **WAV**

Uncompressed PCM (Pulse Code Modulation), as employed by 16-bit/44.1kHz-sampled audio CDs. It's the best you'll get, although file sizes can be large – especially at higher-than-CD resolutions (24-bit) or sampling rates (96kHz/192kHz).

### **FLAC**

A lossless audio codec; data is crunched during encoding to create a .FLAC file of around half the size of the PCM original, which is reconstituted during playback to create a perfect replica of the original source material. DLNA doesn't yet support FLAC, which is an audiophile favourite.

### **AAC**

Advanced Audio Codec. An efficient 'lossy' codec, used for BBC iPlayer, Apple music formats and terrestrial HD broadcasting amongst others. Support is widespread.

### **JPEG**

A 'lossy' still-image codec of widespread application – digital cameras, web pages and smartphones rely on it. Its widely supported by multimedia players, and is a DLNA essential.

### **BMP**

Apple's equivalent is TIFF. Uncompressed image format – no compression artifacts, but enormous file sizes at high resolution. DLNA support is not guaranteed.

### **GIF**

Developed by the CompuServe online service, GIF images – which support a maximum of only 256 simultaneous colours – is a staple of web pages. Most network media players will handle them, but not via DLNA.



# Home cinema

Which sort of visual system do you go for? Projector and screen, or plasma, LCD or LED TV? 3D or non-3D?

**Choosing a home cinema system is a potential minefield that must be negotiated with great care or safely avoided by letting experts guide you. If you want to end up with a system that, as a minimum, meets your expectations in terms of picture and sound quality, reading magazine product reviews and choosing the recommendations, five-star favourites or best buys can only ever be part of the answer at best. Looking for the cheapest price and having a system delivered to your door, even with a 'knowledgeable' friend to help set it up, is a well-trodden path to disappointment.**

There is a bewildering choice of components on the market today and also different ways in which components can be installed and connected together. Which sort of visual system do you go for? Projector and screen, or plasma, LCD or LED TV? 3D or non-3D? Full 1080p capability is now the only sensible choice but the appropriate source components, such as a Blu-ray player, need to be part of the equation.

The sound performance of a system is also hugely important, even more so if you will be listening to music, or music DVD's, through the same system. If so, you need an amp that approaches the performance

of a decent 2-channel hi-fi amp, which is not that easy to find. Having an amp with the right inputs for the best connectivity is essential but you will also need to decide on a 5.1 or 7.1 speaker system, passive or active sub and, crucially, where they will be sited for the best results. In short, it's complicated and very fertile ground for getting it wrong.

## Achieving potential

To select a system, you could choose a collection of 'Best Buy' components in the hope that they will be a great combination. Maybe, but probably not. You could buy a pre-packaged all-in-one system from one manufacturer. This is almost certainly not the best route either, as you will miss out on enormous potential. From informal surveys conducted, it appears highly likely that the majority of home cinema systems

selected and installed on a DIY basis (that is without professional input) are performing at way below their optimum level. To compound matters, most are also ill-matched to the room in which they are installed and are, in reality, the wrong system. Without considerable knowledge or experience, high quality home cinema is not a suitable DIY activity. Our aim must be to buy a home cinema system that will provide an excellent picture quality plus an audio delivery that will match, or even better, the commercial cinema experience. It must be exciting, reliable and deliver true value for money.

“ Home cinema  
so good you'll believe  
you're there! ”



Selecting and installing  
home cinema on a  
DIY basis may leave  
the system performing  
at way below its  
optimum level.

# Confused ?



## What and Where to buy

To ensure a home cinema system is right for you, where do you start? Here's an important tip ...don't start with WHAT, start with WHERE. There's only one way to give yourself the best chance of getting it right first time, and that's through a specialist AV dealer. It's possible you have preconceived ideas that put you off visiting one. Although you would welcome the advice and guidance, you don't know the technical jargon. You don't want to be talked down to. Your friend has said they only sell expensive gear and they're not interested if you don't have a big budget. They're expensive. These are just myths.

Most specialist AV dealers are running their business because, above all, home cinema is their hobby. They spend a large portion of their time comparing systems to get the best possible results. They know the component combinations which don't gel together and, conversely, they know the combinations which give the best performance within a given price range. Very importantly, they know how to get a system working to its optimum. But they all also know the system must suit you.

## Buying or being sold to

There are dealers around, web based or otherwise, who will sell you anything you are willing to pay for. They may be a bit cheaper but that's all they offer. Now there's a carefully selected group of long-established specialist dealers who are totally committed to putting the customer first. Their idea of 'selling' is to discuss your requirements, offer their advice, give you the best options, then play the systems for you and allow you to be the judge. You'll probably be surprised and, almost certainly, relieved to discover how easy it is to see and hear the differences between components and between systems. You'll be able to make a clear and informed decision about what to buy.

The story doesn't end there. These shops won't abandon you once you've put your hand in your pocket. They won't leave you to set up the system you've selected as best you can. They'll install it in your home, make sure it performs to its best, and ensure you're entirely happy with the way it works. Why? Because a high proportion of these dealers' custom comes through people who have bought from them before, either directly or by recommendation. It's vital to them to get it right for you.

## Getting the best deal

Unless you've got money to burn, you'll be living with your new system for years. Most of these dealers offer much longer equipment guarantees than provided by the manufacturer, a very worthwhile benefit, but it also makes it in the dealer's interest to ensure high build quality and reliability. Maybe you could save a few pounds by buying piecemeal but you'll lose out on the overall package. As far as the dealers are concerned, they believe that taking care of their customers properly is a far better way of doing business than just handing over boxes.



The Dealers listed below have been selected because they are known to do an excellent job in guiding customers towards home cinema systems that will provide years of superlative performance and total satisfaction.

## Our Top20 AV shops in the country

### SOUTH

#### Chelmsford

#### RAYLEIGH HI-FI SOUND & VISION

216 Moulsham Street. 01245 265245  
www.rayleighhifi.com

#### Kingston-upon-Thames

#### INFIDELITY

9 High Street, Hampton Wick.  
020 8943 3530  
www.infidelity.co.uk

#### Maidenhead

#### AUDIO VENUE

36 Queen Street. 01628 633995  
www.audiovenue.com

#### Norwich

#### MARTINS HI-FI

85-91 Ber Street. 01603 627134  
www.martinshifi.co.uk

#### Rayleigh, Essex

#### RAYLEIGH HI-FI SOUND & VISION

44a High Street. 01268 779762

#### CUSTOM INSTALL DEPT.

01268 776932  
www.rayleighhifi.com

#### Southend-on-Sea

#### RAYLEIGH HI-FI SOUND & VISION

132/4 London Road. 01702 435255  
www.rayleighhifi.com

#### Tunbridge Wells

#### KENT HOME CINEMA

69 London Road, Southborough.  
01892 535007  
www.kenthomecinema.co.uk

### LONDON

#### Ealing

#### AUDIO VENUE

27 Bond Street. 020 8567 8703  
www.audiovenue.com

### N1 GRAHAMS HI-FI

190a New North Road. 020 7226 5500  
www.grahams.co.uk

### SW11 ORANGES & LEMONS

61-63 Webbs Road, Battersea.  
020 7924 2040  
www.oandlhifi.co.uk

### MIDLANDS

#### Coventry

#### FRANK HARVEY HI-FI EXCELLENCE

163 Spon Street. 024 7652 5200  
www.frankharvey.co.uk

#### Nottingham

#### CASTLE SOUND & VISION

48/50 Maid Marian Way.  
0115 9584404  
www.castlesoundvision.com

#### Solihull

#### MUSIC MATTERS

93-95 Hobs Moat Road.  
0121 742 0254  
www.musicmatters.co.uk

### NORTH

#### York

#### SOUND ORGANISATION

2 Gillygate.  
01904 627108  
www.soundorg.co.uk



The majority of the above dealers are members of one or both of the major trade organisations, BADA or CEDIA.

[www.top20uk.info](http://www.top20uk.info)



## STAR QUALITIES

VALUE FOR MONEY ..... ★ ★ ★ ★ ★  
SERVICE ..... ★ ★ ★ ★ ★  
FACILITIES ..... ★ ★ ★ ★ ★  
VERDICT ..... ★ ★ ★ ★ ★

# ...Talk to the experts



# The Special One

## Tannoy Revolution DC6T SE



**TANNOY**

tannoy.com



# PLAYBACK

→ **SOFTWARE HIGHLIGHTS** **LIFE OF PI** Award-winning film sets a new benchmark for 3D Blu-ray **DJANGO UNCHAINED** Tarantino tackles the Wild West **JACK REACHER** Tom Cruise takes the law into his own hands **ZERO DARK THIRTY** The hunt for Osama bin Laden captured in hi-def **BULLET TO THE HEAD** Sylvester Stallone goes back to basics in this old-school actioner **AND MUCH MORE!**

## A dame to kill for

Gangster Squad Warner Home Video  
All-region BD

Emma Stone adds some classic Hollywood glamour to this 1940s cop movie. But is it enough to make *Gangster Squad* a truly arresting experience on Blu-ray? Find out on p102

### HCC RATINGS KEY...

Outstanding	★★★★★
Above average	★★★★☆
Acceptable	★★★☆☆
Disappointing	★★☆☆☆
Dire	★☆☆☆☆



The 2009 luminous paint spill was still taking its toll on whale populations



# Lee's tiger burns brightest in HD

Award-winning adaptation sets a new high-water mark with its stereoscopic spectacle



## HCC VERDICT

### Life of Pi 3D

→ 20th Century Fox

→ Region A/B BD → £28 Approx

**WE SAY:** Ang Lee's visually dazzling piece of cinematic spectacle is also the best 3D Blu-ray money can buy

Movie ★★★★★

Picture ★★★★★

Audio ★★★★★

Extras ★★★★★

Overall ★★★★★

## → LIFE OF PI 3D

From *Rashomon* to *The Usual Suspects*, the untrustworthy narrator has been a recurring figure throughout the history of movies.

*Life of Pi*'s narrator is no different – for him it's a way of both making his personal experiences more tolerable as well as exploring how people make the choice between faith and skepticism.

Told in flashback, the film recounts how the 16-year-old Pi (Suraj Sharma) ended up trapped at sea with only a man-eating tiger for company. What follows may be a little thin on plot, but in director Ang Lee's hands, it's undoubtedly one of the most visually spectacular movies ever made.

**Picture:** If you've been searching around for a new 3D demo disc, then 20th Century Fox's stereoscopic Blu-ray release of *Life of Pi* should be your first port of call.

Make no mistake about it, this is an achingly beautifully film, brilliantly realised in Full HD 3D via a flawless 1.85:1 MVC encode. The use of space and dimensional effects within the image is stunningly effective, and the luxurious palette of vibrant primary colours that fills almost every single frame of the film is breathtaking. In addition, blacks are thrillingly deep, fine detailing is magnificent and contrast levels appear absolutely true to the filmmakers' intentions.

Interestingly, there are two points in the film where the aspect ratio changes (à la Christopher Nolan's *Batman* sequels). The first is a shift to 2.40:1 during the flying fish sequence in Chapter 18, where

some of the fish actually appear in front of the black bars to give even greater emphasis to the sense of depth in the image. The second is a solitary aerial shot of a whale swimming under the lifeboat; here the aspect ratio switches to a more confined 4:3.

Unsurprisingly, the 2D presentation of the film (provided on a separate Blu-ray platter) is just as accomplished from a technical standpoint.

**Audio:** Whether you watch it 'flat' or in 3D, *Life of Pi*'s DTS-HD MA 7.1 soundtrack is another winner for Fox. In addition to the clean presentation of the dialogue and realisation of Mycheal Danna's Academy Award-winning score, it's also proves extremely adept at conjuring up some powerful soundscapes. Dial up Chapter 9's storm-wracked shipwreck for an idea of how aggressively the track employs the surrounds and subwoofer when required.

**Extras:** *Life of Pi*'s bonus features are split between the 3D and 2D platters – although importantly, those on the stereoscopic disc can also be watched 'flat' on a system that lacks 3D capabilities. These nominally 3D extras take the form of five deleted scenes, the theatrical trailer and two visual effects progression reels – *Tsimtsum Sinking* (13 minutes) and *The Wave Tank* (two minutes).

The centrepiece of the extras on the 2D platter is *A Filmmaker's Epic Journey*, a comprehensive hour-long documentary charting the making of the film. Joining this are featurettes about the visual effects (20 minutes) and tiger training (nine minutes), an extensive art gallery and seven storyboard galleries. A decent effort.



## The Marine 3: Homefront

20th Century Fox → Region A/B BD  
£20 Approx



Michael 'The Miz' Mizanin follows fellow grapplers John Cena and Ted DiBiase Jr. in this third instalment

of the undemanding DTV franchise – although taken on its own terms, *The Marine 3* isn't a bad little action film and while he's no Dwayne Johnson, 'The Miz' manages to give a good performance even when not hitting people. The film's AVC 1.78:1 108p encode is pretty solid, although artefacts do creep into a couple of the action scenes. Curiously, given all of the violence, the film's DTS-HD MA 5.1 mix feels oddly constrained.



## Vehicle 19

StudioCanal → Region B BD  
£23 Approx



Paul Walker takes a break from driving custom cars in the *Fast & Furious* franchise to drive a rental car with

an unexpected passenger in the boot in this South African thriller. While the plot doesn't offer too many surprises (or make much sense) and Walker's ex-con isn't the most charismatic of protagonists, some skillful editing and the Johannesburg location give the film a unique feel. The disc's AVC 2.40:1 1080p encode makes the most of the sunburnt palette and gritty cinematography. A 13-minute *Making of...* and a theatrical trailer are the only extras on offer.



## Quartet

EntertainmentOne → Region B BD  
£20 Approx



Maybe we're just too young to 'get it'. Maybe we've been spoiled by all of those action blockbusters we watch.

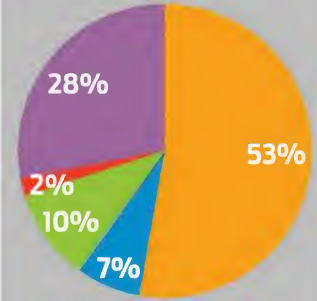
More likely, it's the fact that this painfully polite dramedy, set in a home for retired singers, is so unremarkable and so soporific that prevents us from jumping on the bandwagon and praising *Quartet* to the heavens. Given the subject matter, the Blu-ray's DTS-HD MA 5.1 mix is curiously undemanding. Sure, the singing sounds lovely – but there's no attempt made at making any use of the surrounds. At least Dustin Hoffman's film looks fantastic in HD and boasts a wide array extras.



## WE ASKED...

Who was the best of the '80s action superstars?

- Arnold Schwarzenegger
- Steven Seagal
- Sylvester Stallone
- Jean-Claude Van Damme
- Bruce Willis



Results from [www.homecinemachoice.com](http://www.homecinemachoice.com)  
Go online for more polling action



# Docu-drama is a real hi-def thriller

Kathryn Bigelow's latest is an unexpected contender for the AV smash of the year

## → ZERO DARK THIRTY

Kathryn Bigelow's cinematic re-telling of the C.I.A. investigation that led to the killing of Osama bin Laden arrived at cinema screens dogged by controversy – not least the claims that it legitimises the use of torture. If that's a debate that doesn't interest you, just focus on *Zero Dark Thirty* simply as a piece of entertainment, because this technically accomplished movie is one of the best we've seen all year.

Even though everybody knows exactly how the story ends, Bigelow and screenwriter Mark (The Hurt Locker) Boal have managed to transform it into a tense and dynamic thriller. And at its heart is Jessica Chastain, demonstrating yet again why her star is on such a rapid rise in Hollywood, playing the young government agent who spends a decade in dogged pursuit of the one lead that she believes can lead them to bin Laden's hideout.

**Picture:** *Zero Dark Thirty* arrives on Blu-ray with an exceptional AVC encode that looks stunning on a bigscreen display. Framed at 1.85:1, the Full HD visuals are refined and surprisingly vibrant at times, with long shots of the Peshawar market in Chapter 10 offering up a multitude of brightly coloured fruit and vegetables, alongside bustling throngs of hundreds of – clearly delineated – people crowding the streets.

The quality of the hi-def encode also extends to night scenes, of which there are plenty. Shot in very soft, low light levels, the pivotal assault on bin Laden's compound could have been a mess of artefacts and crushed blacks. However, the clarity

DISC  
OF THE  
MONTH



### HCC VERDICT

#### Zero Dark Thirty

→ Universal Pictures →

All-region BD → £25 Approx

**WE SAY:** Exceptional hi-def picture and sound quality make up for this Blu-ray's lack of bonus features

Movie ★★★★★

Picture ★★★★★

Audio ★★★★★

Extras ★★

Overall ★★★★★

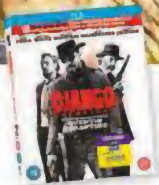
of the transfer and the amount of shadow detail ensures the action is easy to follow.

**Audio:** As good as the picture quality is, the audio is even better. *Zero Dark Thirty*'s DTS-HD MA 5.1 track is a mixture of military power and gentle beauty, with a sense of spatial realism to every single setting. Ambient effects are meticulously placed and it's also capable of delivering moments of real sonic shock and awe, such as Chapter 6's heart-stopping hotel bombing. Quite simply, this is one of the most impressive multichannel mixes we've heard in a long time – dynamic, detailed and involving.

**Extras:** The thin selection of bonus goodies here stretches to a short *Making of...* featurette, another about building and shooting in the recreation of Osama bin Laden's compound, a look at the cast's military training and a puff piece about actress Jessica Chastain. We guess all the interesting stuff is classified information...



Will Smith passed on the role of Django  
— his loss was Jamie Foxx's gain



# Tarantino breaks genre shackles

Filmmaker is back to his blood-soaked best with this revenge-driven journey to the 'Wild South'



## → DJANGO UNCHAINED

Having killed Hitler in 2009's *Inglourious Basterds*, Quentin Tarantino is rewriting history again in his latest film. Thankfully *Django Unchained* is a much better movie than his tricky World War II flick.

While the name of his protagonist calls back to Franco Nero's coffin-dragging gunslinger (and Nero himself even cameos in this film), Tarantino's Django is an altogether different character. Freed from slavery by German bounty hunter Dr. King Schultz (Christopher Waltz) to help him identify some fugitives, Django (Jamie Foxx) finds a new lease of life as a bounty hunter himself. Not just because it means that he gets to 'kill white people and get paid

for it', but also because Schultz agrees to help Django free his wife from a brutal Mississippi plantation owner (Leonardo DiCaprio).

Of course, this being a Quentin Tarantino film, it all plays out as a glorified pastiche of the spaghetti Western genre. But, unlike the frequently taciturn films that inspired it, *Django Unchained* also boasts lashings of sparkling dialogue alongside its exquisitely-shot violence. And crucially, unlike *Inglourious Basterds*, this time around Tarantino's script feels like a genuine narrative, rather than a collection of four or five lengthy scenes stitched together to make some sort of movie.

In fact, the only thing it doesn't ever do is take itself too seriously. No matter how brutal they are,



Don Johnson (top) and Leonardo DiCaprio (bottom) are on hand to give Django grief as Southern slave owners



There's often unexpected beauty in  
Tarantino's trademark violence



## DEMO SCREEN...

## Django Unchained

Time code: 131.46 – 135.22



**Quick on the draw:** Outgunned on all sides, Django comes out firing, and the Blu-ray's dynamic DTS-HD MA 5.1 mix ensures that every bullet unleashed packs an almighty kick.



**Yee-haw:** As Django takes cover behind the body of one of his victims, the sound of bullets zips from front to back across your speaker array.



**There will be blood:** The high-contrast lighting used by Tarantino in this sequence perfectly picks out the volcanic eruptions of bright red blood.



**Off the chain:** As the scene heads towards its conclusion, the mix steps up another gear when the James Brown/2Pac mash-up *Unchained* (*The Payback/Untouchable*) roars into life.

the bad guys are all laughable caricatures – a scene with Jonah Hill revolving around the problems with Ku Klux Klan outfits is just as broad (and almost as funny) as a similarly themed sketch from the fourth series of *That Mitchell and Webb Look*. Actually, *Django Unchained* sometimes veers perilously close to being a far ruder version of *Blazing Saddles* – but there's always another beautifully choreographed, blood-soaked shootout waiting around the corner.

**Picture:** Tarantino's 'slavesploitation' film is probably his most visually striking, and Sony Pictures' Blu-ray release definitely makes the most of this fact with its eye-catching AVC 2.40:1 1080p visuals.

Much of *Django Unchained* plays out in wide open vistas that are rendered in crisp snowy whites and rich, verdant greens. Indeed, colour saturation is one of this encode's major strengths, painting the screen with garish primaries and subtle hues beyond those. The close-up shot of vivid blood splashing across a field of bright white cotton plants is mesmerising.

When the action moves inside, the decision to use candles and gas lamps gives the locations a sense of authenticity, but does sometimes flatten out shadows a little too much and leaves certain shots appearing slightly diffuse. But this is an understandable aesthetic choice and certainly doesn't take too much of the shine off this otherwise impressive hi-def outing.

**Audio:** *Django Unchained* arrives all guns blazing on Blu-ray with a robust and explosive DTS-HD MA 5.1 mix.

The soundtrack makes extremely convincing use of the entire multichannel array, with the surround channels constantly on hand to bring the Deep South locations to life. But it's not just about ambience –

positional effects are thrillingly precise, allowing you to follow the path of bullets across the soundstage. Meanwhile, your subwoofer is treated to some tremendous, boot-shaking bass.

Dialogue is also handled with care, remaining firmly pinned to the centre channel and perfectly audible at all times. And, this being a Tarantino film, there's also a wide range of music in the soundtrack (from Ennio Morricone to The Heavy) – all of which sounds absolutely wonderful.

**Extras:** To say that *Django Unchained*'s extra features are disappointing would be an understatement of monumental proportions. You get three featurettes here, and none of them are particularly gripping.

*Reimagining the Spaghetti Western: The Horses & Stunts of Django Unchained* is a 14-minute featurette that seems to spend almost as much time reassuring viewers that no horse were harmed during the making of the film as it does discussing the stunts; *The Costume Designs of Sharen Davis* – as you can probably guess from the title – is a (12-minute) showcase for the film's impressive togs; and the

14-minute *Remembering J. Michael Riva:*

*The Production Design of Django Unchained* serves as both a look at the film's set design and a heartfelt tribute to production designer Riva, who passed away during the shoot. And that's it for behind-the-scenes material. The only other 'features' are trailers for the *Tarantino XX* Blu-ray boxset (which many will already own) and the *Django Unchained* soundtrack, plus a Music Selection menu.

An Oscar-winning smash such as this surely deserves much better.



Tarantino regular Samuel L. Jackson is in on the fun once again (above)



## HCC VERDICT

## Django Unchained

→ Sony Pictures

→ All-region BD → £25 Approx

**WE SAY:** Tarantino's best film in years is also a rootin' tootin' hit on Blu-ray – despite the poor selection of extras

Movie ★★★★★

Picture ★★★★★

Audio ★★★★★

Extras ★★☆☆☆

Overall ★★★★★



## ARCADE ACTION

Bigscreen home entertainment isn't just about movies anymore. Check out these two videogames vying for time on your home cinema system...

### BioShock Infinite

Take 2 Interactive → Xbox 360/PS3/PC → £50 Approx



It's safe to say that not many people pick up a Triple-A first-person shooter in the hopes of being treated to a storyline concerning metaphysics and the nature of choice. But that's just what Irrational Games has delivered with this blockbuster sequel.



Like the original *BioShock*, this follow-up is as much about the world it creates as it is about the characters who inhabit it. But, while Rapture was a decaying undersea labyrinth, *BioShock Infinite*'s Columbia is a thriving and resplendent jewel in the sky – although one thing that the floating city shares with its predecessor is that

it too is an expansion of one man's will, in this case religious fanatic Father Zachary Hale Comstock. As a hired-gun, it's your mission to rescue Comstock's daughter Elizabeth from imprisonment that drives the game's narrative forward.

And what a game it is. While some people might complain that *BioShock Infinite*'s weaponry feels a little weedy compared to other FPS games, they're missing the point that real power is provided by the 'Vigors' that bolster your combat abilities. The fact that it also looks and sounds better than 90 per cent of other games out there is just the icing on this particularly action-packed and thought-provoking cake. Something very special indeed is going to have to come along to stop *BioShock Infinite* being crowned HCC's 2013 Game of the Year.



### Crysis 3

Electronic Arts → Xbox360/PS3/PC → £50 Approx

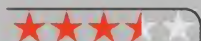


If nothing else, 2013 looks set to be the year when the bow became the weapon of choice for games developers. *Crysis 3*'s bow makes its debut pretty early on and while the game doesn't stop serving up weapons of mass destruction for you to annihilate your foes with, you'll find yourself coming back to it time and again.



Set 24 years after the events of *Crysis 2*, this new first-person shooter once again puts players in control of the alien Nanosuit known as Prophet and lets you stomp around the overgrown ruins of New York City. There you quickly settle into a pattern of helping

resistance forces fight a two-pronged war against the corrupt CELL corporation and alien invaders – accompanied by plenty of cut-scenes that ponder the nature of humanity (another favourite with developers right now). Powered by the latest incarnation of developer Crytek's CryEngine3 technology, *Crysis 3* is every bit as spectacular to look at as its predecessors, rendering breathtaking mixtures of urban and rainforest environments. Unfortunately, the audio isn't quite as exciting, never quite managing to match the immersive quality of the game's visuals. A bigger problem comes from the gameplay itself which – while fun – quickly develops into a repetitive routine of stealth killing your way through barely-disguised arenas. Good, but not great.



## Dr. Who & the Daleks / Daleks Invasion Earth 2150 A.D.

StudioCanal → Region B BD  
£23 each



These mid-'60s *Doctor Who* flicks scrub up very well in HD. Meticulously restored from 35mm interpositives, the AVC 2.40:1 1080p encodes are awash with vibrant colours and

heavy grain that showcase their Techniscope origins. Both discs come with restoration featurettes and trailers, while the first film also gets a commentary and *Dalekmania* documentary. Such a shame it's the weaker of the two films by some margin.



## Spartacus: War of the Damned

Anchor Bay → Region B BD  
£45 Approx



This final season finds the stakes raised higher than ever as Spartacus' slave army wages full-scale war with the might of Rome. It's epic stuff, regularly delivering the kind of blood

and thunder fans have come to expect from the show, while also taking the time to explore its characters. As with the earlier seasons, the AVC 1.78:1 1080p imagery and DTS-HD MA 5.1 sonics are first-rate. However, in order to get it on shelves so quickly Anchor Bay has had to forgo any bonus material – a blow given the copious extras accompanying the previous BD boxsets.



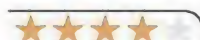
## Fringe: The Complete Fifth and Final Season

Warner Home Video → All-region BD  
£38 Approx



All good things must come to an end – and so it is that fans must now bid farewell to this superior sci-fi series. At least we can all take comfort in the fact that the show was allowed to

run to a natural conclusion – even if this fifth season's dystopian future time-line isn't one that we necessarily saw coming. Apart from some occasional video noise, the AVC 1.78:1 1080p visuals hold up well, while the DTS-HD MA 5.1 mixes are more potent and aggressive than expected. Extras are interesting, if limited.







Is Tom Cruise taller than we all thought, or is that girl just really far away?

# Tom Cruise reaches out for success

A mix of old-school style and cutting-edge AV make this thriller well worth a shot on Blu-ray

## → JACK REACHER

When a sniper kills five innocent people in Pittsburgh, it doesn't take long for the police to follow the evidence back to Iraq war veteran James Barr. But rather than admit his guilt or protest his innocence, Barr only wants one thing: to see a man called Jack Reacher.

Based on Lee Child's novel *One Shot* – the ninth in an ongoing series (soon to notch up its 18th volume) – *Jack Reacher* is a sharp, gritty, hard-edged conspiracy thriller that owes a terrific debt to the best of '70s action cinema. Tom Cruise is excellent in the title role (despite being considerably shorter than the 6'5" Reacher of the novels – apparently the only thing that mattered to some fans of the books) bringing more than enough charisma and energy to successfully pull it off. More, please.

**Picture:** Those who like a truly cinematic feel from their hi-def platters will find plenty to enjoy about *Jack Reacher's* AVC 2.40:1 presentation.

Details are crisp and expertly rendered, colours are rich and there is a beautifully refined layer of grain evident throughout the transfer that accurately reflects its 35mm origins. Equally worthy of praise are the encode's nuanced black levels, which reveal a wealth of detail in even the most tricky low-light conditions – such as the film's final showdown in Chapters 16 and 17.

So, hats off to Paramount once again for delivering another superb 1080p encode for home cinema fans.



**Audio:** As soon as you experience the precision, power and perfect positioning of the gunshots in the film's opening sequence, you just know that *Jack Reacher's* DTS-HD MA 7.1 mix is going to be something very special.

The sheer scale and dynamics of the soundstage the mix generates is staggering, especially when you consider that it's more of a thriller than a traditional action film. And when you do get to one of the handful of action sequences – such as Chapter 12's car chase – the 7.1 mix steps things up a notch, with even more aggressive spatial effects and the kind of wonderfully deep bass that'll rattle the fillings out of your teeth.

**Extras:** It may not be over-burdened with bonus features, but fans of both the film and its source material will appreciate much of what is on offer.

Tom Cruise joins director Christopher McQuarrie for a very thorough commentary track that provides plenty of insight into how the film came together. Composer Joe Kraemer also gets a chat-track, although in truth it's more of an isolated score with occasional comments – which makes the fact that it's only presented in lossy Dolby Digital 2.0 more than a little annoying.

The disc also serves up a trio of interesting featurettes, housing interviews with all of the major players. There's a 27-minute *Making of...*, a 10-minute look at the fight choreography and an 11-minute chat with author Lee Child about the success of the character and his novels.



The old-school feel of the film even stretches to the BD's animated menus

## HCC VERDICT

### Jack Reacher

→ Paramount → All-region BD  
→ £25 Approx

**WE SAY:** Ignore the fuss about Tom Cruise and settle back for a top-notch thriller that does the business on BD

Movie ★★★★★

Picture ★★★★★

Audio ★★★★★

Extras ★★★★★

Overall ★★★★★



Something illegal in your neighbourhood?  
Who you gonna call? Gangbusters!



# Posturing pastiche lacks polish

Favouring style over substance proves to be the biggest crime in this glossy detective drama



## → GANGSTER SQUAD

Based on the true story of an off-the-books police squad set up in 1940s L.A. to bring down boxer-turned-gang boss Meyer 'Micky' Cohen, *Gangster Squad* has the kind of setup that most crime writers could only wish they'd dreamt up. Add to that some serious star power, including Josh Brolin, Ryan Gosling, Emma Stone and Sean Penn, and you'd expect this to be the sort of modern classic that could rival *L.A. Confidential* or *Chinatown*.

Unfortunately, in terms of storytelling and character development, director Ruben Fleischer's film can barely even drag itself up to the level of the hit videogame *L.A. Noire*. So what went wrong?

One of the most obvious problems is that the filmmakers appear to have got so caught up in making sure that all of the period details are spot-on, they've gone and forgotten all about the people living in the world they've created. There is simply no complexity to any of the them: Brolin's cop John O'Mara is a square-jawed straight-shooter, Penn's 'Micky' Cohen is a thuggish gangster who seems to have walked in from an x-rated version of *Dick Tracy*, and so on...

So no matter how good the actors involved are, there just doesn't appear to be any

connection between them and the characters they're portraying – it ends up akin to watching some Hollywood superstars playing the most expensive game of cops and robbers imaginable.

**Picture:** *Gangster Squad* is an exceptionally good-looking piece of filmmaking – albeit one that hasn't made an entirely seamless transition to Blu-ray.

For the most part the AVC 2.40:1 visuals are very good, with punchy colours, inky blacks and intricate textures. However, on a handful of occasions, such as our first visit to the interior of Slapsy Maxie's club in Chapter 2, some banding does become an issue in areas of large, vibrant colour.

**Audio:** The DTS-HD Master Audio 5.1 mix is a *tour de force* of 360-degree sound design. Action scenes such as Chapter 6's car chase and Chapter 10's hotel shoot-out are the main beneficiaries, bristling with explosive positional effects and thunderous bass.

**Extras:** The main extra is *The Gangland Files* picture-in-picture mode, which also provides links to a collection of 15 short *Focus Point* featurettes (these can also be accessed directly from the Special Features menu). A director's commentary and a 46-minute documentary about Mickey Cohen are also included.



### HCC VERDICT

#### Gangster Squad

→ Warner Home Video

→ All-region BD → £25 Approx

**WE SAY:** It may look the part, but this period police thriller is a pale imitation of the best the genre has to offer

Movie ★★☆☆☆

Picture ★★★★★

Audio ★★★★★

Extras ★★★★★

Overall ★★☆☆☆



## The Long Riders

Second Sight → Region B BD  
£20 Approx



Walter Hill's superb retelling of the Jesse James story receives a long-overdue UK Blu-ray release courtesy of Second Sight. The good news is that it's a damn sight more impressive HD package than MGM's lacklustre 2011 US release. The AVC-encoded 1.85:1 1080p picture is fairly inconsistent, but it's clear that Second Sight put effort into cleaning up MGM's old HD master. Elsewhere the LPCM 2.0 mix works wonders with Ry Cooder's score. Newly-created extras include an hour-long documentary, an 'anatomy of a scene' featurette and Hill talking about Sam Peckinpah.



## Halo 4: Forward Unto Dawn

Anchor Bay → Region B BD  
£20 Approx

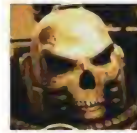


With plans for a big-budget *Halo* movie still trapped in development hell, it appears that fans will have to make do with this re-edited web series for the time being. What they'll make of the decision to sideline Master Chief until the final act is another thing – but the good news is that once he and the Covenant finally turn up... *Forward Unto Dawn* delivers on the promise of its source material. As well as a strong AVC 2.40:1 1080p encode and dynamic DTS-HD MA 5.1 mix, this disc also delivers plenty of extras, including 10 behind-the-scenes featurettes.



## Ultramarines

Anchor Bay → Region B BD  
£25 Approx



There's no denying that Games Workshop's *Warhammer 40,000* role-playing game has plenty of scope for spin-off movies. This makes it all the more surprising and disappointing that this CG animation is the first attempt at bringing the game's rich universe to the screen. Sure, *Ultramarines* may get the small details right, but the characters are mere cyphers, the pacing is dreadful and the plot is as predictable as they come. The Blu-ray's AVC 1.78:1 visuals look oddly washed-out and lack texture, while the Dolby TrueHD 5.1 mix goes for volume rather than quality. A missed opportunity.



## Street Fighter II: The Movie

Manga → Region B BD  
£25 Approx



If ever you needed more proof of how far off the mark Hollywood's live-action *Street Fighter* adaptation was, all you need to do is take a look at this Japanese animated film. It may not add up to much more than a series of fight scenes, but somehow it still manages to boast more plot and characterisation than the Jean-Claude Van Damme version. This Full HD release is utterly devoid of bonus features, but fans can take heart that the AVC 1.85:1 encode is the best the film has looked, and the LPCM 2.0 audio (in Japanese and English) is suitably punchy.



# Sly Stallone returns to the 1980s

Just when you thought they didn't make action films like this any more... they did

## → BULLET TO THE HEAD

Veteran director Walter Hill's first feature film since *Undisputed* in 2002, *Bullet to the Head* sees career hitman Jimmy Bobo (Sylvester Stallone) and tech-savvy cop Taylor Kwon (Sung Sang) form an uneasy alliance in pursuit of the New Orleans goons responsible for the deaths of their partners. Cue plenty of punch-ups, bickering, explosions and plot holes.

This movie was a box office flop and it's easy to see why: a buddy movie in the vein of Hill's earlier *48 Hrs* and *Red Heat*, it feels outdated compared to modern, hi-octane action fare.

However, Hill remains a master at orchestrating macho violence, the wise-cracking dialogue is fun and Jason Momoa (*Game of Thrones*' Khal Drogo) is utterly brilliant as the psychotic villain. Old-school and enjoyable.

**Picture:** Imagery here is workmanlike, with the Blu-ray's AVC-1 1080p 1.85:1 picture tonally muted for much of the time with its dimly-lit interiors and numerous night sequences. And while noise isn't a problem, the image just doesn't feel especially crisp and sharp for Full HD.

However, Hill's naturalistic cinematography means there are none of the overblown colours or crushed blacks that Hollywood is otherwise obsessed with. Better yet, there are no glaring technical issues such as edge enhancement or colour banding to be seen either.

**Audio:** *Bullet to the Head*'s DTS-HD Master Audio 5.1 soundtrack is as predictable as the movie's narrative, predominantly focused on the front soundstage with



Jason Momoa channels some Khal Drogo in his showdown with Stallone

### HCC VERDICT

**Bullet to the Head**  
→ EntertainmentOne → Region B BD  
→ £20 Approx  
**WE SAY:** A reasonable hi-def debut for Walter Hill's fun, but unremarkable, '80s-style action movie throwback

Movie ★★★★★  
Picture ★★★★★  
Audio ★★★★★  
Extras ★

Overall ★★★★★

the surround channels employed primarily for background ambience.

Only a few sequences – such as Chapter 11's shootout that places gunfire around the soundfield – will really stretch your AVR. However, there's a good amount of weight given to the fisticuffs courtesy of the LFE channel.

The highlight, as with a lot of Hill's output, is the score. Although frequent collaborator Ry Cooder is absent this time around, newcomer Steve Mazzaro delivers delightful blues and bluegrass-themed licks that sound sweet and stick in the mind.

**Extras:** Entertainment One's disc falls short here, with nothing more than a 9-minute *Bullet to the Head: Mayhem Inc.* featurette on offer.

This is standard EPK fare, constructed from interviews with Stallone, Hill, Sang, Momoa and others, but it does have a few interesting tidbits – including an alligator that waddled onto the set...





# Lionsgate goes hell for Leather(face)

Studio pulls out all the stops to give its 3D *Chainsaw* sequel a spectacular BD release

## → TEXAS CHAINSAW 3D

Tobe Hooper's legendary *Texas Chain Saw Massacre* has spawned some pretty dreadful sequels and spin-offs in its time – but none quite as bad as this.

While the best entries in the series always had a fairly twisted sense of humour, none of them did anything as perverse as transforming Leatherface into a hero. But this ridiculous movie asks us to side with the chainsaw-wielding maniac as he takes on the locals who killed his family.

Furthermore, the plot is full of so many holes that you'd think Leatherface had taken his weapon to it. This lack of care with the material extends to the casting of 27-year old Alexandra Daddario as the heroine. Sure, she's very easy on the eyes, but according to the chronology the filmmakers set up (backed up by the date on a police report seen in the film), her character should be celebrating her 40th birthday any day now. D'oh!

**Picture:** Despite how dark much of the action is, the 2.40:1-framed MVC encode's stereoscopic effects are utterly convincing in giving the imagery a tangible volume. Black levels also hold up well, revealing a wealth of shadow detail that you might not expect from a 3D encode.

Naturally, this being a horror film, there are also a handful of gimmicky yet effective out-of-the-screen moments – most notably the P.O.V. shot from the inside of a coffin as Leatherface cuts through the lid in Chapter 8.

This 3D Blu-ray platter also includes the option to watch the film presented 'flat' in 2D – and, as you'd expect this looks every bit as sharp and detailed.



**Audio:** *Texas Chainsaw 3D*'s DTS-HD MA 7.1 soundtrack matches the solid impression made by the stereoscopic visuals. Director John Luessenhop employs an expansive soundfield, with convincing use of positional effects and wide dynamic range. Dialogue is crystal-clear throughout, Foley effects are as crunchy as you'd expect a chainsaw cutting through flesh to be, and there's a pleasing sense of weight to its LFE effects.

**Extras:** Want to know what Tobe Hooper thinks about the film? Or the opinions of some of the cast members from previous *Chainsaw* movies? They all provide their thoughts on the movie, along with the filmmakers responsible for this Texan turkey, in a trio of fun audio commentaries. Seven production featurettes, six scene-specific behind-the-scenes vignettes and an alternate, longer cut of the film's opening scene are also offered – and all are much more interesting than the actual movie.



## HCC VERDICT

**Texas Chainsaw 3D**

→ Lionsgate

→ Region B BD → £25 Approx

**WE SAY:** A spectacular hi-def package for a horror sequel that deserves to have a chainsaw taken to it

Movie ★★★★★

Picture ★★★★★

Audio ★★★★★

Extras ★★★★★

Overall ★★★★★

## Blood on Satan's Claw

Odeon Entertainment → All-region BD  
£25 Approx



While not as well known as the Hammer films of the same era, this period shocker about a Satanic cult that takes hold of the children in a 17th Century village is one of the better

British genre films of the 1970s. Stunningly directed by Piers Haggard, this literate and chilling film also benefits from a superb central performance from Linda Hayden as nubile cult leader Angel. This Blu-ray release delivers a beautifully restored AVC 1.85:1 1080p encode alongside a fabulous LPCM mono mix that gets the best out of the film's haunting score. Extras include a 20-minute *Making of...* and a pair of chat-tracks.



## Bait 3D

StudioCanal → Region B BD  
£23 Approx



A group of tsunami survivors find they've more to worry about than just keeping dry in this high-concept 3D

b-movie; trapped inside a submerged supermarket, they also have to contend with a killer shark swimming up and down the aisles. Much better than the lamentable *Shark Night 3D*, this Australian flick is a fun watch and boasts some effective stereoscopy thanks to the Blu-ray's crisply-rendered MVC 1.78:1 picture. The DTS-HD MA 5.1 mix also has real bite, with strong dynamics and good bass presence. Extras take the form of a 44-minute *Making of...* and the trailer.



## Black Mirror: Series 2

4DVD → R2 DVD  
£20 Approx



This second series of Charlie Brooker's techno-*Twilight Zone* isn't quite as strong as the first, but still makes

for thought-provoking TV. The first two stories (*Be Right Back* and *White Bear*) are both genuinely complex attempts at dealing with themes of grief and justice. Only the final tale (*The Waldo Moment*) struggles to find anything fresh to say or be particularly believable in dramatic terms. This DVD outing – sadly there's no Blu-ray on the cards – is a modest affair. While the anamorphic transfers hold up well, the DD 2.0 mixes are pretty limited and the sole extra is a short Q&A.







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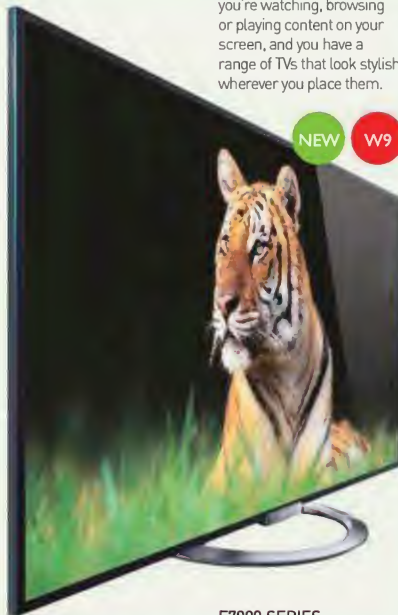
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Give your movie collection the red carpet treatment with this award-winning player with advanced networking features, superior audio performance and support for SACD.

Also Available: YAMAHA BD-S473



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OR LESS

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Developed from the acclaimed AVR600 as a more affordable way to access Arcam's legendary sound quality.

Also Available: ARCAM FMJ AVR400



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OR LESS

#### NAD • T 757V2 • AV RECEIVER

AV receiver featuring NAD's Modular Design Construction for future upgrades along with exceptional sound quality.

Also Available: NAD T 748 & T 777



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#### NAD • T 787 • AV RECEIVER

The remarkable NAD T 787 is the ideal choice for the most advanced home cinema and multi-room systems.

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#### DENON • AVR-X2000 • AV RECEIVER

7.1 channel receiver featuring support for Apple AirPlay, DLNA 1.5 compatibility and online music services such as Spotify.

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#### PIONEER • SC-LX56 • AV RECEIVER

Award-winning 9.2-channel receiver meets all the popular needs including Apple AirPlay for wirelessly streaming music.

Also Available: PIONEER SC-2022



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#### PIONEER • SC-LX86 • AV RECEIVER

9.2-channel receiver featuring network connectivity along with AirPlay and Bluetooth audio streaming.

Also Available: PIONEER SC-LX76



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#### ONKYO • TX-NR626 • AV RECEIVER

7.2-channel receiver with excellent audio and video performance plus Internet radio and music streaming services.

Also Available: ONKYO TX-NR818



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HOME ENTERTAINMENT

#### YAMAHA • RX-V673 • AV RECEIVER

This AV receiver meets all the popular needs including Apple AirPlay for wirelessly streaming music from any compatible device.

Also Available: YAMAHA RX-V373 & RX-V475



£1999  
OR LESS

#### YAMAHA • RX-A3020 • AV RECEIVER

Yamaha's range of AV receivers include many performance enhancing technologies and innovative features.

Also Available: YAMAHA RX-A1020 & RX-A2020

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#### WHARFEDALE • DX-1 HCP SPEAKER PACKAGE

The DX-1 HCP delivers smart, space-saving contemporary style and exhilarating sound for both movies and music – fast, punchy and detailed, with a sense of scale that belies the diminutive size of the speakers.

#### Q ACOUSTICS • Q7000 SPEAKER PACKAGE

The award-winning Q7000 is a stylish speaker package that delivers dynamic sound for movies, but with the ability to play music. Comprises four satellites, a centre speaker plus an active subwoofer.



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#### REL • T-5 SUBWOOFER

Delivers the exceptional low-bass performance, rugged build quality and unique design of larger REL models at a more affordable price. T5 can be used to wonderful benefit to underpin both two-channel and multi-channel systems.

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#### SONOS • SUB WIRELESS SUBWOOFER

Seamlessly integrating with a Sonos System, this wireless subwoofer is designed to perform perfectly whether positioned horizontally or vertically, you can put the SUB anywhere you want in the room – even lying flat under a couch.



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£2699  
OR LESS

#### MONITOR AUDIO • APEX • SPEAKER PACKAGE

Multi award-winning package includes four A10 glossy brushed-metal satellites, an A40 centre and AW-12 subwoofer.



NEW

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OR LESS

#### SONOS • PLAYBAR SOUNDBAR & WIRELESS SPEAKER

This plug-and-play unit incorporates 9 integrated amplified speakers. Simply connect it to your TV with the supplied optical cable to deliver an epic home cinema sound in your own living room. PLAYBAR can also expand your existing Sonos system.



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#### B&W • PANORAMA 2 • SOUNDBAR

Panorama 2 adds a new dimension to home entertainment, bringing truly immersive high quality sound to your TV from a single, discreet speaker. Bowers & Wilkins experience in developing technologies for the world's most advanced home theatre speakers ensures Panorama 2 sounds amazing.



NEW

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#### YAMAHA • YSP-3300 • DIGITAL SOUND PROJECTOR

The 16 array speakers, controlled by Yamaha's YSP technology, plus two powerful woofer units in the large cabinet deliver excellent sound quality with clearly positioned dialogue and superb surround effects. The wireless subwoofer delivers clear and powerful bass.



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#### KEF R100 5.1 SPEAKER PACKAGE

Award-winning package comprising four R100 speakers, an R200C centre speaker and R400B active subwoofer. Great for both home cinema and music.



Inspired by KEF's multiple award-winning 'egg' design, the new E Series packs uniquely advanced technologies in highly distinctive satellite speakers and a powered subwoofer.

#### KEF • E305 • SPEAKER PACKAGE



NEW

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#### B&W • MT-60D • SPEAKER PACKAGE

The award-winning MT-60D speaker package combines five M-1 speakers with the PV1D subwoofer.

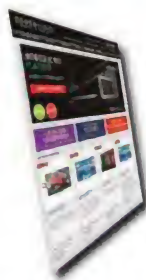


£799  
OR LESS

#### B&W • MT-50 • SPEAKER PACKAGE

This system swaps the PV1D for the compact but punchy ASW608 Subwoofer. Available in a matt black and white finishes.

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OR LESS



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Onkyo TX-NR818  
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+ Q Acoustics 2000i (5.1)

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Yamaha RX-V673  
+ Q Acoustics 7000 (5.1)

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Yamaha RX-V673  
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+ Q Acoustics 7000 (5.1)

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Yamaha RX-A1020  
+ DALI ZENSOR 5 (5.1)

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Yamaha RX-A3020  
+ Q Acoustics 7000 (5.1)

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Yamaha RX-A3020  
+ DALI ZENSOR 5 (5.1)

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Yamaha RX-A3020  
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# SELECT

→ **GEAR GUIDE** **TELEVISIONS** From entry-level 40in LEDs to flagship monster plasmas  
**BLU-RAY PLAYERS** Which deck rules the roost? **PROJECTORS** It's time to blow up your video!  
**AV RECEIVERS** 5.1, 7.1, 9.2 – we've got all the options covered **SPEAKERS** Killer surround sound setups  
 for all rooms and budgets **PVRs** Including super-slim Freeview boxes and Sky+HD **AND MORE!**



## HCC RATINGS KEY...

Outstanding	★★★★★
Above average	★★★★☆
Acceptable	★★★☆☆
Disappointing	★★★☆☆
Dire	★★★☆☆



## TOP 10 TELEVISIONS

All prices are approx and may have changed

**Samsung PS64F8500** → £3,000

★★★★★

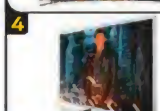
A new panel design has given Samsung's plasma tech a much-needed injection of brightness and contrast. The result is a premium bigscreen display that wows with both 2D and 3D images. The new Smart hub is a winner, too

**Sony KDL-55HX853** → £1,800 ★★★★★

Sony has returned to form with this 55in LED 3DTV that majors on detail and motion handling, and sports a price that undercuts similar-sized rivals. Buy with confidence

**Samsung UE46F8000** → £1,800 ★★★★★

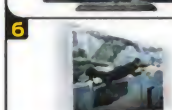
The F8000 tops Samsung's LED lineup (if you exclude the £35,000 S9 Ultra HD set) and is a consistently good performer. Bright, vivid images married to a super-stylish design

**LG 84LM960V** → £22,500 ★★★★★

LG's debut Ultra HD (4K) TV is an eye-opening look at the future of home cinema technology, with upscaled BDs benefitting from the pixel push. Hardly cheap, though

**Philips 55PFL6007** → £1,700 ★★★★★

Not one of Philips' top-flight models, but this Passive 3D bigscreen is superb value for money. Imagery is consistently good and the slim-bezel design works wonders with the 55in panel

**Philips 46PFL9707** → £2,300 ★★★★★

Philips' second iteration of its Moth Eye screen technology continues to offer astonishing contrast. This set is at its best with 2D HD material, though: crosstalk with 3D is apparent

**Panasonic TX-L47DT65** → £1,700 ★★★★★

The first of Panasonic's new 2013 LED TVs impresses with bright, sharp images and Passive 3D. Twin-tuner functionality is a welcome addition to the Smart revolution

**Toshiba 40RL858** → £500 ★★★★★

An ideal set for a budget setup – there's no 3D on offer here, or Toshiba's CEVO processing, but the £500 ticket gets you a smart brushed aluminium trim and sharp HD images

**Samsung UE32EH5000** → £400 ★★★★★

If you need a 32in TV, this is the model to get – what it lacks in Smart skills it makes for in the AV department. Both HD and SD material impresses and the price ain't bad either

**LG 50PA650T** → £500 ★★★★★

A 50in plasma TV for just £500 is hard to ignore, and LG's model rewards thrifty buyers with a solid performance. No 3D or Smart capabilities here – just bigscreen HD images and neat styling

## TECH INFO: TELEVISIONS



**Plasma or LCD?:** The TV market is becoming increasingly dominated by LED-lit LCD screens that are much, much thinner than traditional cold cathode fluorescent lamp (CCFL) screens. For 42in and above, plasma display panels (PDPs) come into play, although LED screens up to 70ins are also hitting the high street – and 84in 4K panels are also on the way. Plasma screens generally offer superior black levels, better viewing angles and less 3D crosstalk, but less brightness and a higher energy consumption. There's also a more limited choice – with just Samsung, LG and Panasonic selling plasma TVs in the UK.



**Active or Passive:** At the beginning of the 3D revolution, most TVs featured the Active system that uses relatively expensive, powered 3D specs to deliver Full HD images to each eye. Passive 3D TVs, which are increasingly common and now sold by LG, Philips, Toshiba and Panasonic, have a filter over the screen and use non-powered specs with polarising filters. The glasses are cheap as chips, but the resolution of Full HD 3D is halved to 540 lines horizontally (but remains at 1,920 vertically). Glasses-free 3D is in its infancy, with just Toshiba's ZL2 set on sale at present.

## TOP 5 BLU-RAY MOVIES

**Dracula**

This beautifully restored hi-def version of Hammer's 1958 classic finds the garlic-hater looking better than ever – and fang fans finally get to see footage cut by sensors that, until recently, was feared lost for good.

★★★★★

**Skyfall**

Bond is back on Blu-ray in some style – Daniel Craig's third outing as 007 is an absolute knockout and the hi-def visuals and DTS-HD MA 5.1 audio on Fox/MGM's platter are there to be savoured. Roll on the next one...

★★★★★

**The Impossible**

This dramatisation of 2004's Indian Ocean Tsunami, starring Naomi Watts, is, naturally, grim in places, but the astonishing sound design and sun-bleached visuals will put a smile back on your face.

★★★★★

**Brave**

Pixar does its own take on the Disney Princess genre with this beautifully animated and cleverly scripted 'toon. The BD release offers exquisite Full HD imagery and a thunderous 7.1 Dolby TrueHD mix.

★★★★★

**Looper**

Bruce Willis and Joseph Gordon-Levitt headline this unmissable brain-muddling time-travel flick, which arrives on Blu-ray with a flawless DTS-HD MA 5.1 soundtrack and sharp 1080p visuals.

★★★★★



## TOP 10 BLU-RAY PLAYERS

All prices are approx and may have changed

- 1**  **Oppo BDP-103EU → £500 ★★★★★**  
 Oppo's first deck for two years has been worth waiting for. The universal BDP-103EU features a class-leading build and all manner of bonus goodies, including twin HDMI inputs should you want to lavish some of its processing power on lesser components. AV performance is faultless, and the onscreen menus are superb. All hail the the new king of Blu!
- 2**  **Sony BDP-S790 → £240 ★★★★★**  
 This range-topping deck represents a bargain AV purchase. As well as its 4K upscaling talents, the Sony delivers BDs and DVDs with aplomb, spins SACDs and offers twin HDMI outputs. Classy
- 3**  **Oppo BDP-105EU → £1,000 ★★★★★**  
 This heavyweight deck builds on the premium picture performance of the BDP-103EU with a wealth of audiophile upgrades – if you're serious about music, check it out
- 4**  **Marantz UD7007 → £1,000 ★★★★★**  
 Marantz's top-line player doesn't bother itself with feature fads like 4K upscaling, preferring to offer faultless BD playback, music streaming (including FLAC) and balanced outputs
- 5**  **Pioneer BDP-450 → £230 ★★★★★**  
 Currently the most affordable universal player, the BDP-450 ignores analogue outputs and concentrates solely on the digital age. Well-built and an assured performer
- 6**  **Pioneer BDP-LX55 → £350 ★★★★★**  
 An impressively-styled and well-built universal player with a BD performance that's hard to fault and a clean way with CDs. The Smart cupboard is a little bare, though
- 7**  **Denon DBT-3313UD → £900 ★★★★★**  
 As a 'transport' rather than a player, this universal Denon lacks built-in decoders and analogue outputs, but partner it with one of the brand's AVRs via Denon Link HD and you'll be rewarded
- 8**  **Panasonic DMP-BDT500 → £300 ★★★★★**  
 Panasonic's range-topper loves your Blu-ray collection. HD images are sharp and fluid and it doubles as a great Smart hub. The touchpad remote is a bit tricky, though
- 9**  **Panasonic DMP-BDT330 → £200 ★★★★★**  
 NEW ENTRY  
 New for 2013, this slim-line spinner is a solid choice, although the Viera Connect portal is beginning to feel a bit out-dated and the DMP-BDT500 (above) offers better features
- 10**  **Pioneer BDP-150 → £140 ★★★★★**  
 Insanely affordable considering its Super Audio CD playback, Pioneer's BDP-150 is a worthy choice if you can live without much in the way of Smart functionality

## TECH INFO: BLU-RAY PLAYERS

**Matching your deck to your AV receiver:** Blu-ray decks are designed to deliver top-notch images (some do it much better than others, of course) but Blu-ray is also about enjoying superior quality sound. When choosing a player, bear in mind the connectivity and decoding features of your AV receiver. If you're still using an older model that doesn't offer HDMI inputs, then you'll need a Blu-ray player with multichannel analogue audio outputs to enjoy decoded hi-res surround sound formats. Similarly, older but still HDMI-equipped receivers may not be able to cope with 3D video signals, in which case you'll need a deck with dual HDMI outputs – one channeling audio to your receiver amp, the other piping video direct to your TV.

**What about the PlayStation 3?:** Sony's console ushered in the era of Blu-ray playback in 2006 and still represents an easy path to hi-def heaven. For a low-budget home cinema system, the £200 PS3 Slim (160GB) makes a decent choice – especially if you like playing games (in 3D, if you fancy it). Control via a joypad is a pain, though, and the console runs more noisily than most traditional BD spinners.

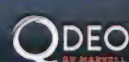
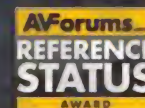


## DEMO DELIGHT

**Prometheus:** Ridley Scott's return to the sci-fi genre is a treat for your senses, with a crystal-clear HD image and spine-tingling sonics. The 3D presentation of this outer-space horror is impressive too – it oozes depth and proves utterly immersive

oppo<sup>®</sup>  
Blu-ray

At the top of everyone's shortlist





## TOP 10 PROJECTORS

All prices are approx  
and may have changed**Sony VPL-HW50ES** → £3,000

★★★★★

Another compelling example of Sony's rediscovered obsession with quality and a model that no one in the market for a mid-range projector can afford to ignore. Your film collection is in safe hands here

**JVC X55** → £5,000 ★★★★★

Armed with a more flexible, second-gen iteration of JVC's e-shift pixel-polishing wizardry, the X55 offers supreme clarity as well as an impressive contrast and near-faultless 3D presentation

**JVC X35** → £2,900 ★★★★★

The £3,000 price point is the hot spot for home cinema PJs, and JVC's 'entry-level' D-ILA model is definitely worth auditioning – especially if you're not fussed about its '4K' scaling siblings

**Sony VPL-VW1000ES** → £17,000 ★★★★★

Sony's flagship projector is an absolute triumph, giving film fanatics the chance to upscale their Blu-ray collection to 4K resolution. The start of a new era? We hope so!

**SIM2 Nero 3D-1** → £13,000 ★★★★★

That this isn't SIM2's most expensive model says a lot about the premium projector brand. Yet the DLP-based 3D-1 is still an awe-inspiring beamer, with 3D a particular strength

**Runco LightStyle LS1** → £4,000 ★★★★★

With a price tag not usually seen on Runco PJs, the LS1 is an excellent choice for those who aren't interested in 3D. This 2D-only DLP model offers brilliant HD pics and ISF certification

**Epson EH-TW8100** → £2,300 ★★★★★

Don't want the ISF certification, 3D glasses or wireless HD transmission of the EH-TW9100W (below)? Then save yourself £600 and grab this well-priced offering instead

**Panasonic PT-AT6000E** → £2,900 ★★★★★

Panasonic's newest PJ is undeniably a brilliant performer with 2D, but 3D movies could do with an increase in brightness. Maybe that's why you don't even get any 3D spex bundled in the box...

**Optoma HD25** → £800 ★★★★★

Optoma's newest projector provides bright, stable Full HD 3D (with the Active glasses and RF transmitter included) and great-looking 2D visuals for a pittance. But it's a bit noisy

**BenQ W1070** → £700 ★★★★★

A brilliant bargain proposition, the BenQ W1070 packs a surprising amount of useful features, including ISF certification. You'll need to fork out extra for 3D glasses, though

## TECH INFO: PROJECTORS



**Installation:** Although projectors can be temporarily placed on a cupboard, stand or shelf situated at the rear of the room (use the adjustable feet on its base to level the image so that it aligns with the screen), a much better long-term solution is to mount it on your ceiling with an appropriate bracket. Projectors can be quite heavy, though, so it's important to ensure that the bracket is attached firmly – ideally, it should be secured to a joist. Position your PJ so that an imaginary line from its lens to the opposite side of the room hits the screen exactly half-way along its width. The location of your screen should therefore dictate where your projector is. A decent tape-measure or laser pointer will help you to determine the position.

**Throw distance:** Throw distance specifies the distance between the projector and screen for a focused image of given size. As the vast majority of projectors are equipped with a zoom lens, minimum and maximum throw distances are often specified – say, 3.01m to 6.08m for a 100in. 16:9 image. Shorter throw distances are ideal for smaller rooms, and longer ones for larger rooms. Simple.

**Throw ratio:** Sometimes, a manufacturer will quote a throw ratio rather than a throw distance. This is basically the throw distance divided by the image width. To get the projected image size, divide the distance between projector and screen by the specified figure. Once again, the inclusion of a zoom lens means that upper and lower figures are usually specified.

SONY

## Home Cinema Projector Range

HW30



HW50



VW95



VW1000ES



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## TOP 10 SPEAKERS

All prices are approx  
and may have changed**Wharfedale DX-1 HCP** → £400

★★★★★

You can spend a fortune on a 5.1 speaker set, but those on tight budgets aren't ignored. Wharfedale's affordable package looks gorgeous and sounds fantastic, with its tight, fast subwoofer underpinning the satellites with ease

**Boston Acoustics A Series** → £2,200 ★★★★★

Boston Acoustics roped in audio guru Ken Ishiwata from sister brand Marantz to finetune this floorstanding range – the result is a mid-range setup that mixes detail and scale

**Bowers & Wilkins MT-60D** → £2,000 ★★★★★

This 5.1 set from B&W sits at the upper end of the sub/sat market, but buyers are rewarded by a potent performance, with the PVID subwoofer dazzling in particular. They look lovely, too

**Q Acoustics Q2000i** → £600 ★★★★★

Another superior sub/sat array from the sonic wizards at Q Acoustics, this marries some surprisingly full-bodied satellite speakers to an easy-to-accommodate 2 x 6in sub

**KEF R Series** → £6,500 ★★★★★

A 7.1 array mixing dipolar and direct radiating surrounds, this package takes its cues from KEF's Blade speaker and offers faultless, largescale, home cinema sonics

**SVS Ultra 7.1** → £7,150 ★★★★★

A big array (with both bookshelf and dipole designs), this is costly but definitely worth it. Deep, deep bass and soaring high-frequencies coming at you from all angles. Tasty

**Acoustic Energy 3 Series 5.1** → £2,000 ★★★★★

An easy-to-accommodate system using bookshelves both front and rear, this brilliantly built array creates a musical, cohesive soundfield backed up by an agile subwoofer

**Monitor Audio Gold GX** → £7,150 ★★★★★

More affordable than the flagship Platinum range, this 5.1 Gold system still showcases Monitor Audio's strengths – exquisite-looking floorstanders with a rich, intricate, powerful sound

**KEF T205** → £1,500 ★★★★★

KEF's T Series brings high-quality sonics to your living room with the minimum of intrusion – these thin, flatpanel speakers are far more impressive than you might think

**Monitor Audio MASS 5.1** → £800 ★★★★★

Five angular satellite speakers joined by a potent (and quite large) 220W subwoofer, MA's MASS 5.1 delivers detailed surround sonics and enough grunt for regular-sized rooms

## TECH INFO: SPEAKERS



**Centre speaker:** Handles most of the dialogue and onscreen effects. Should be positioned above or below the screen as close to it as possible. Of course, if you're using a projector screen, it should ideally be placed behind it.

**Front speakers:** Left and right speakers should be positioned either side of the screen, in line with the centre. Turn the speakers in slightly to face the listener if there isn't an even movement of sound across the front of the room.

**Subwoofer:** Can be positioned wherever it sounds best or can be tucked out of sight due to the non-directional nature of low-frequency signals. Be aware that close positioning in corners or next to walls can create a boomy effect.

**Surrounds:** Position alongside the listener, pointing in or slightly behind the ears for a good surround effect. The back wall is not a good position for surrounds – it is, in fact, where you should locate the sixth and seventh speakers (rears) in a traditional 7.1 array.

## DEMO DELIGHT

**Gladiator:** While it's often the low-end oomph of your sub that impresses friends and family, the high-frequency poise of your speakers is equally important, lending authenticity to the copious Foley effects that litter film soundtracks. The Colosseum fight sequence in *Gladiator*, with its clashing swords, is a perfect test for your tweeters

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## TOP 10 AV RECEIVERS/AV PROCESSORS/POWER AMPLIFIERS

All prices are approx  
and may have changed

- 1 Denon AVR-4520 → £2,300 ★★★★★**  
 Denon's flagship AV receiver sees the brand return to the high-end in style. This 9.2-channel powerhouse mixes subtlety and detailing with brute force and dynamism. Build quality is high and its networking talents impressive
- 2 Sony STR-DA5700ES → £2,000 ★★★★★**  
 Sony's STR-DA5700ES is unique among AVRs for offering both built-in Ethernet switching (handy) and video-on-demand (also handy). Flexible, good-looking... and it sounds fabulous
- 3 Onkyo TX-NR5010 → £3,000 ★★★★★**  
 The top-of-the-range Onkyo warrants its £3,000 ticket by virtue of massive nine-channel power reserves and an extensive feature list. One for serious setups
- 4 Denon AVR-3313 → £1,100 ★★★★★**  
 Sonic detailing is the order of the day here, with the Denon crafting soundstages with considerable finesse. Spotify, Denon Link HD and triple HDMI outputs are the feature highlights
- 5 Marantz AV8801 → £2,500 ★★★★★**  
 The brand's high-end 11-channel processor offers balanced outputs and heavyweight engineering. Partner it with the MM8807 power amp for a supreme performance
- 6 Pioneer SC-LX86 → £2,000 ★★★★★**  
 As the Japanese corp's top dog, the SC-LX86 is packed with features and built to last. Get to grips with its detailed setup process and you're in for multichannel thrills
- 7 Cambridge Audio Azur 751R → £1,600 ★★★★★**  
 Counting against the Azur 751R is its total lack of networking abilities and old-school interface, but its multichannel and stereo audio performance is hard to beat at this price
- 8 Marantz NR1603 → £550 ★★★★★**  
 The brand's second-gen 'slimline' AVR continues to offer brilliant streaming prowess and enough grunt for its target audience – but the lack of built-in Wi-Fi is annoying
- 9 Harman Kardon AVR 370 → £800 ★★★★★**  
 One of the most sultry-looking models on the market, HK's mid-ranger offers 8-in, 2-out HDMI hookup, AirPlay and a classy audio performance. The app and UI could be better, though
- 10 Pioneer SC-2022 → £900 ★★★★★**  
 Another Pioneer AVR that dazzles with its slick control features and crystal-clear audio presentation. But at this price you'd expect a second HDMI output

## TECH INFO: AV RECEIVERS



**Tackling new heights:** You may find your AV receiver offering Dolby Pro-Logic IIz, Audyssey DSX or DTS Neo: X post-processing – possibly all three. All of these can deliver two further Front Height channels, with the aim of adding weight and control to the front soundstage, particularly in terms of lifting the centre channel and adding scale to vertical surround effects – rainfall for example. The catch is that you will need to add two new physical speakers, mounted near your ceiling above the regular left and right channel cabinets, and make use of two of the receiver's channels of amplification, which could mean forgoing a second stereo zone or rear surrounds speakers. Note that the Audyssey and DTS modes also cater for Front Wide speakers (pictured above), but this idea seems to be gaining less traction within the industry.

**How much power?:** Many of the mass-market AV receiver manufacturers are involved in a specifications race to see who can say their model is the most powerful, which can be confusing for consumers. For instance, both Krell's £7,000 S-1500 seven-channel power amp and Yamaha's £500 RX-V671 both claim 7 x 150W – the important part is that Krell's figure is into an eight-Ohm load with all channels driven, and that Yamaha's is with one channel into a four-Ohm load, which is hardly a real-world situation. The best advice is ignore the numbers game and get a demo of your desired AVR with the same, or similar, speakers that you intend to partner it with.



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## TOP 10 SUBWOOFERS

All prices are approx  
& may have changed**Bowers & Wilkins DB1** → £3,250

★★★★★

Featuring a bipolar arrangement of 12in drivers powered by 1,000W of amplification, B&W's stylish flagship sub is a faultless performer, offering both musicality and sheer muscle. Fit to partner the finest of speakers

**JL Audio Fathom F212** → £5,900 ★★★★★

The US brand arrives in the UK in style – this 2 x 12in, 3000W brute not only looks gorgeous, it's capable of a mindblowing performance. Got a big room? Get one of these!

**Tannoy TS2.12** → £550 ★★★★★

The TS2.12 is easily Tannoy's best woofer yet – using a 12in driver (opposite a passive 12in cone) and 500W amp to deliver a rich, warm bass performance. Affordable and good-looking, too

**Velodyne SPL-800 Ultra** → £1,150 ★★★★★

Proof that even 'small' subwoofers can offer a brilliant performance. The 8in driver is helped by a 1,200W amp and mic-assisted room EQ. Tight and fast

**REL T5** → £450 ★★★★★

The 8in T5 provides a slice of REL engineering at a surprisingly affordable price. Highlights include the simultaneous speaker-level and LFE inputs and pleasing Class A/B sound

**Bowers & Wilkins PVID** → £1,200 ★★★★★

Possibly the coolest-looking subwoofer on the planet, B&W's revamped PVI uses its DSP trickery to craft an opulent low-end performance. The touch-sensitive OLED display is pure class

**Velodyne DD18+** → £5,800 ★★★★★

If you have a large cinema room then this second-gen 18in beast from Velodyne will appeal. The performance is as brilliant as you'd expect for the price and specification

**REL G1** → £3,300 ★★★★★

A top-of-the-range woofer with a price tag to match, buyers of REL's G1 can rest assured they're getting a best-in-breed product. Delivers a warm, rich sound with slam and depth

**Q Acoustics 2070Si** → £250 ★★★★★

A cracking value sub with a smart elongated-oblong design that may make it easier to fit in your room. Each of its 6.5in woofers are driven by a 75W amp

**Velodyne EQ-Max12** → £800 ★★★★★

A solid mid-range sub from the bass masters at Velodyne, with a foolproof auto EQ system in addition to a quartet of sound presets. Doesn't exactly ooze design style, though

## TECH INFO

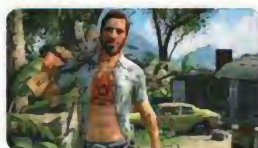


**Why use more than one sub?:** Using two subwoofers (or perhaps four) should, in theory, bring huge rewards in terms of bass performance. But remember that LFE is a tricky beast to control. Running two subs may simply double problems in your room like room boom and suck-outs, where outgoing and reflected bass sounds cancel each other out. If you have some flexibility in where you place subwoofers, trial and error may well throw up some interesting results. The acoustics wizard Floyd E Toole (his book *Sound Reproduction: The Acoustics and Psychoacoustics of Loudspeakers and Rooms* is fine bedtime reading) suggests one LFE sub to either side of the room may be best for accuracy while placing them in the front corners would be best for overall bass power. Yet there is no hard and fast rule as to what will work best for every room, and you may find that simply using one (large) subwoofer is preferable as it's the easiest to get sounding right.

## DEMO DELIGHT

**Jurassic Park:** Steven Spielberg's dinosaur-packed blockbuster is rightly remembered for its cutting-edge CGI, but the surround sound mix is equally impressive. The Blu-ray release provides a perfect test for your subwoofer, with the ominous footfalls of the T-Rex so loud and low in the mix that you should find yourself as terrified as Jeff Goldblum's fast-talking mathematician. If you don't – well, you need a new woofer.

## TOP 5 HD GAMES

**Far Cry 3**

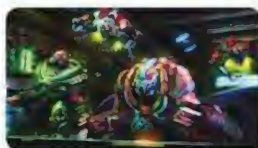
An open-world first-person actioner, *Far Cry 3* feels like a breath of fresh air for the genre, with players equally likely to spend time hunting animals as following the kill-the-pirates narrative. Sensational.

★★★★★

**Elder Scrolls V: Skyrim**

Abandon all hope (of a life), ye who enter here. This third-person action RPG may not be the most visually impressive game around, but it will devour your every waking hour once started. Consider yourself warned...

★★★★★

**XCOM: Enemy Unknown**

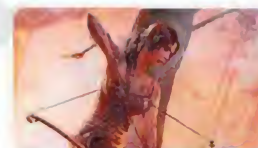
This sequel to the much-loved PC franchise provides a breath of fresh air to console gamers – a turn-based strategy game majoring on brains as well as brawn, drawn with lavish graphics and evocative audio.

★★★★★

**Dishonored**

This first-person action-adventure puts you in the body of an assassin in a beautifully crafted steampunk world. Convincing characters and great sound design partnered with involving gameplay. We love it.

★★★★★

**Tomb Raider**




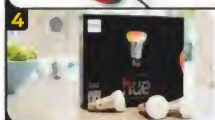





Lara Croft returns in this fantastic reboot that breathes new life into the third-person action genre. With a great story and quality graphics and sonic design it feels like a Hollywood blockbuster. Just with a joypad.

★★★★★



## TOP 10 ACCESSORIES

All prices are approx and may have changed

- 1**  **Crystal Acoustics Media Matchbox** → £55 ★★★★★  
 Crystal Acoustics' dinky player will happily play nearly everything you throw at it, including MKV, FLAC and BD/DVD ISO files. Pocket-sized and wallet-friendly, it's an essential purchase for those wanting a fuss-free media player
- 2**  **Western Digital WD TV Live Hub** → £200 ★★★★★  
 The WD's built-in 1TB hard drive explains the £200 ticket. This sleek-looking unit incorporates a faultless user interface and smartphone control, making media browsing a breeze
- 3**  **PSB M4U1** → £220 ★★★★★ NEW ENTRY  
 These closed-back 'phones are an excellent all-round offering – agile and clear with music, while possessing enough low-frequency prowess to give weight to BD soundtracks. Comfy, too
- 4**  **Philips Hue** → £180 ★★★★★  
 These Wi-Fi enabled lightbulbs might be a tad expensive (this £180 starter pack includes two, plus the Wi-Fi bridge) but making your own multicoloured lighting scheme is a blast
- 5**  **Harman/Kardon BT Air** → £350 ★★★★★  
 Comfortable to wear and gorgeous to look at, Harman/Kardon's Bluetooth-capable (hence the BT moniker) headphones offer an enticing, rich performance that isn't overblown in the bass dept
- 6**  **One For All Simple 4** → £22 ★★★★★  
 A neatly styled and backlit universal remote control, One For All's budget zapper can tackle up to four devices at once and offers easy setup and handy shortcut keys
- 7**  **A.C. Ryan PlayOn! HD 2** → £150 ★★★★★  
 This 1TB media player counts USB 3.0 for fast file-copying as one of its USPs. It's solidly built, simple to use and ready to tackle a variety of formats, including DVD/BD ISOs
- 8**  **Sony SMP-N200** → £70 ★★★★★  
 A bargain-priced box of tricks from Sony, the SMP-N200 offers built-in Wi-Fi, DLNA networking and access to the Sony Entertainment Network, with control via the XrossMediaBar
- 9**  **DVDO Air** → £350 ★★★★★  
 Built around the WiDi standard, this wireless HD sender handles Full HD (including 3D) video and multichannel audio. Build quality and design is good, performance hard to fault
- 10**  **Eminent EM7285** → £165 ★★★★★  
 Pricey, but heavy on features (including Wi-Fi, eSATA port, SD card slot and built-in BitTorrent client), Eminent's style-starved player also offers 'user-generated' apps that are worth a shufti

## TECH INFO: MEDIA PLAYERS



**What about my TV?:** Many flatscreen TVs from the major brands (Sony, Samsung, Panasonic, LG, Toshiba and Sharp) also incorporate media player functionality, using Ethernet or Wi-Fi to stream from your home network, or from plugged-in USB drives. Most modern Blu-ray players offer this, too. However, file support is rarely as extensive as on dedicated devices from the likes of Western Digital and A.C. Ryan, and our experience shows some are more adept at playback from USB than over a network. Nor (obviously) is a TV or BD player portable. If your media collection extends beyond JPEGs and MP3s into lossless audio rips and esoteric HD video formats, then a standalone player is a good investment.

**Storage:** You can, if you really want, store all your files on a plethora of USB drives, or on your PC, but it's best to get a NAS (Network Attached Storage) device for simplified sharing of your media across a network with

multiple players, such as one from Netgear's ReadyNAS range (pictured). These dedicated devices often offer RAID array file backup, and are managed via browser software. Storage capacity can be anything from 1TB to 12TB and beyond.



## TOP 5 BLU-RAY BOX SETS



**Game of Thrones: The Complete Second Season**  
 Another ten episodes of prime fantasy TV gets a spectacular Blu-ray release courtesy of HBO Home Entertainment – the picture and sound quality consistently impresses.  
 ★★★★★



**Indiana Jones: The Complete Adventures**  
 Although the *Raiders of the Lost Ark* restoration isn't the best we've seen, this is a box set that no home cinema fan can afford to be without. And ...*Temple of Doom* is uncut, too!  
 ★★★★★



**Universal Classic Monsters: The Essential Collection**  
 Bag yourself eight great monster movies given a thorough cleanup by Universal Studios – and marvel at the sheer brilliance of *The Creature from the Black Lagoon* in 3D.  
 ★★★★★



**True Blood: The Complete Fifth Season**  
 More quality TV from HBO in a fan-pleasing BD box set. Imagery is commendable, the DTS-HD MA 5.1 mixes are surprisingly forceful, and there are loads of extras to sink your fangs into.  
 ★★★★★



**The Lord of the Rings Trilogy: Extended Edition**  
 Peter Jackson's box office-breaking trilogy simply dazzles in HD, and these extended cuts are perfect for Middle Earth maniacs. Watch the movies then savour the 26 hours of extras.  
 ★★★★★



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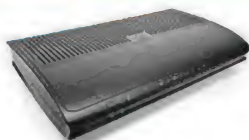
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## TOP 5 PVRs

**Virgin Media TiVo, £subscription**

This triple-tuner PVR offers ultimate recording flexibility, useful features – you can undelete deleted shows! – and awesome TiVo functionality. A no brainer if you're in a cable area

★★★★★

**Sky+HD, £subscription**

Sky's channel choice is second-to-none and its twin tuner 2TB PVR is a perfect partner. The recent EPG tweak is welcome and Anytime (the push VOD service) is brilliant for catching up on new movies

★★★★★

**Panasonic DMR-HW220, £250**

Panasonic's PVR mixes a 1TB hard drive with its Smart Viera functionality and media streaming – so at £250 it's an absolute steal, regardless of the uninspired design

★★★★★

**Pure Avalon 300R Connect, 1TB, £350**

Pure's debut Freeview+ HD offering is assured. While it can't match YouView for VOD content, the user interface here is unrivalled and four-way HDMI switching a welcome addition

★★★★★

**Humax DTR-T1000, £300**

The first ever YouView product was worth the lengthy wait – this is a fine example of how to integrate broadcast telly and IPTV. We can't wait for a larger 1TB version, with built-in Wi-Fi, to surface

★★★★★

## TOP 5 SOUNDBARS

**Yamaha YSP-2200, £800**

Launched back in 2011, but still part of the Yamaha lineup, this premium-priced 'Digital Sound Projector' offers very effective virtual surround, a separate 100W subwoofer and 3-in, 1-out HDMI switching

★★★★★

**Sonos PlayBar, £600**

Sonos' debut 'bar' offers a hefty, spacious sound (although it doesn't come with a sub) and it can be easily added to an existing Sonos network for music-on-demand fun. Only connects to your TV via optical.

★★★★★

**Libratone Lounge, £1,100**

Don't let the cashmere cover fool you – this AirPlay and DLNA-toting soundbar delivers a sound quality commensurate with the price tag. The lack of HDMI connectivity is a real let-down, though.

★★★★★

**Samsung HW-E450, £250**

HDMI connectivity, wireless subwoofer hookup, Bluetooth streaming and USB file playback help this well-priced 'bar' stand out from the crowd. Audio performance is solid, too – but lossless tracks aren't catered for

★★★★★

**Roth Audio Sub Zero, £150**

This well-constructed soundbar eschews a dedicated sub (hence the name) in favour of a brace of 'ultra bass' drivers alongside six other speakers. Sound quality is expansive, with a tight low-end and impressive volume

★★★★★

## TOP 5 SYSTEMS

**Panasonic SC-BTT590, £630**

The use of new bamboo/charcoal drivers and noise-shaping tech pays dividends here, with a classy sound quality to match the wealth of features (3D BD, Smart TV and more)

★★★★★

**Samsung HT-E6750W, £1,000**

Samsung's pricey tallboy system uses a vacuum tube pre-amp to sweeten up its sound and offers virtual 7.1 from its five speakers courtesy of vertical-firing drivers. The feature count is extensive

★★★★★

**Harman Kardon BDS470, £650**

Harman's 2.1 system eschews 'net TV and streaming features but majors in heavyweight build quality and solid AV performance. We tested a 2.1 iteration – 5.1 is also available

★★★★★

**LG BH8220B, £650**

With its silver finish, this is a suitable one-box system to partner with LG's flatscreen TVs, with a commendable, if slightly lacking in HF finesse, sound. Additional features including CD-ripping to USB. Handy

★★★★★

**Panasonic SC-HTB570, £350**

A commendable slim-line 2.1 system that can also be clicked together to make a soundbar. The punchy wireless subwoofer does a lot of the work. Bluetooth music streaming is onboard

★★★★★

# HOME CINEMA

## Choice

ISSUE  
#223 ON SALE  
June 27

## → IN THE NEXT ISSUE

**4K:** Everything you need to know!

**Inside IMAX:** Behind the scenes at the world's greatest cinema

**The wow factor:** Blu-rays that are guaranteed to blow you away!

## → ON TEST

Panasonic ZT65 'reference' plasma Sony W8 series LED Samsung BD-F8500 PVR Pioneer VSX-923 AV receiver Sony STR-DA5800ES AV receiver Subwoofer group test PLUS News, software, opinion, installs and more!



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BLACK OR SILVER



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ON DEMO



PRICES FROM  
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PRICE  
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BLUE  
MOVING MAGNET  
CARTRIDGE



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VINYL WASHING  
SYSTEM



PRICE  
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SILVER RX6  
SIX FINISHES



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PIANO BLACK,  
EBONY OR ROSE



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WHARFEDALE  
155  
FOUR FINISHES

# STANDMOUNT SPEAKERS

ON DEMO



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SILVER RX1  
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PRICE INC. STANDS  
**£549.00**  
Q ACOUSTICS  
CONCEPT 20  
GLOSS BLACK OR  
GLOSS WHITE



PRICE  
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DIAMOND 121  
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CARBON  
SEVEN DIFFERENT  
COLOURS!



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CONCEPT  
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PRICE  
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TONEARM  
BLACK OR CLEAR

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PEARL  
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PRICE  
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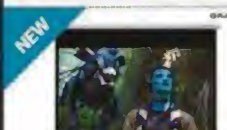
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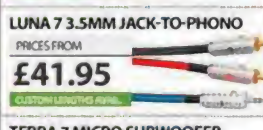
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CUSTOM LENGTHS AVAILABLE

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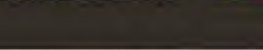
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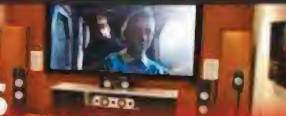
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# POINT OF VIEW

The UK has been dragging its economic heels for years, but **Richard Stevenson** finds some elements of the home cinema industry are still thriving – and bargains can be found

**WE MAY STILL** be in the grip of economic gloom but I can see some light at the end of the consumer electronics market's long dark tunnel, and that light is home cinema. During this recession, the electronics industry has fared even worse than other consumer goods sectors and has had more dips than a fondue party. The general public are simply not buying TVs and audio systems like they used to. In fact, throughout 2012, the UK public purchased half as many TVs as it did in 2006.

The trouble is we already own flatscreen HDTVs – and lots of them. In the UK we have 2.25 TVs per household, the highest penetration in the world, although someone else must have my quarter. Should one of your TVs fail and finances are tight, you don't actually need to replace it and many people don't. Compare that with washing machines where most people have just one appliance – about 3 million are sold in the UK year after year after year.

HDTVs are reliable and reasons to upgrade are limited. Smart features are available via almost every device you can plug into your TV and **3D transpired to be a herring so red you could stick a scarf on it and call it an Arsenal fan.** Ultra HD may well make ripples at the high-end but, for many people, it's hardly a 'must-have' feature. Size does matter, though; the only sector of the TV market that has been constantly on the up is screens of 42in and bigger. Every year, over 10 per cent more people enter the heady world of home cinema with a super-sized TV.

So what about sound? Well, 'home cinema in a box' packages are down in sales, almost on mute, in fact. Instead, people are turning to soundbars to deliver more oomph to their TV and home cinema sound. There are some superb models out there and many of them make for a compelling experience

without the hassles of amps and speakers. In fact, soundbars have introduced many people to decent home cinema sound who would have otherwise never bought a traditional surround sound system.

In the more specialist parts of the home cinema market, where big research companies don't get out of bed, one has to rely on anecdotal market intelligence. Having asked a few AVR and loudspeaker makers directly, the overall theme is that business is 'not outstanding, but okay'. Certainly, one speaker brand I spoke to said that its £300 5.1 package was flying out of the door and the sheer number of budget AVRs launched annually indicates the entry-level end of home cinema is alive and well.

At the top end, custom home cinema installations with eye-watering price tickets are still the must-have home accessory for the well-heeled. A home cinema room is a lot less 'showy' than a second Bentley, so gives the impression you are more in touch with the age of austerity even if you are minted. At the recent Munich High End Show, a big event where price tickets of individual hi-fi and home cinema components range from several thousand pounds up to figures that would otherwise buy a house, exhibitor and visitor numbers were high.

Home cinema fans in all sectors of the market are upgrading parts of their system every year and I thank eBay for that. Second-hand values of home cinema equipment on the auction site are relatively high, ensuring you can offset a lot of the cost of new kit by flogging your old stuff. Combine this with traditional retailers happy to offer a discount on new gear if you're buying a couple of items at the same time, and upgrading your home cinema system has never been more affordable ■

*Do you ever buy second-hand home cinema hardware? Let us know: email [letters@homecinemachoice.com](mailto:letters@homecinemachoice.com)*

**Richard Stevenson** has bought so much home cinema gear on eBay that his feedback score now has more digits than his credit card bill





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